

=> d 127 1-19 cbib abs hitstr hitind

L27 ANSWER 1 OF 19 HCA COPYRIGHT 2002 ACS

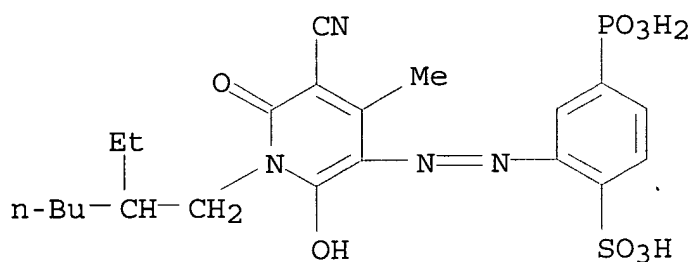
133:75478 **Ink**-jet **ink** compositions of colored water-dispersible polymers for images with good light- and water-fastness and optical density. James, Mark Robert; Pears, David Alan; Double, Philip John; Gregory, Peter; Padget, John Christopher (Avecia Limited, UK). PCT Int. Appl. WO 2000037575 A1 20000629, 33 pp. DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB4209 19991213. PRIORITY: GB 1998-27894 19981221.

AB A water-dissipatable polymer having colorant attached through a covalent -O- link. Thus, C.I. Reactive Red 11 was added to aq. 2-ethylhexyl acrylate-Et acrylate-2-hydroxyethyl acrylate-methacrylic acid-Me methacrylate copolymer suspension to give a colored resin for introduction to an **ink** jet **ink**.

IT 278798-49-5P  
(**ink**-jet **ink** compns. of colored water-dispersible polymers for images with good light- and water-fastness and optical d.)

RN 278798-49-5 HCA

CN Benzenesulfonic acid, 2-[[[5-cyano-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-phosphono-, triammonium salt (9CI) (CA INDEX NAME)



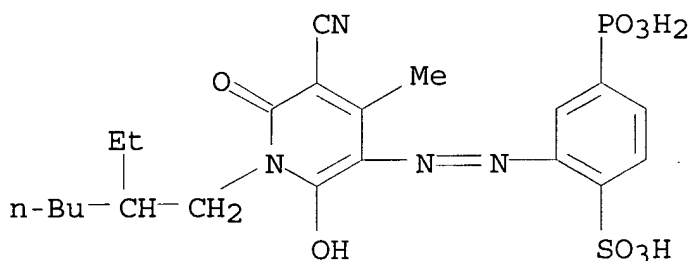
● 3 NH<sub>3</sub>

IT 278798-51-9DP, reaction products with hydroxy polymer  
(**ink**-jet **ink** compns. of colored water-dispersible polymers for images with good light- and water-fastness and optical d.)

RN 278798-51-9 HCA  
 CN Benzenesulfonic acid, 2-[[5-cyano-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-phosphono-, compd. with 3,3,4,4-tetramethyl-1-pentanamine (1:3) (9CI) (CA INDEX NAME)

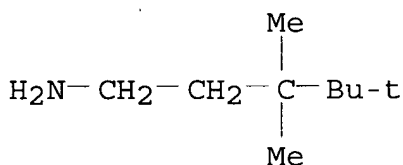
CM 1

CRN 278798-50-8  
 CMF C21 H27 N4 O8 P S



CM 2

CRN 278798-46-2  
 CMF C9 H21 N

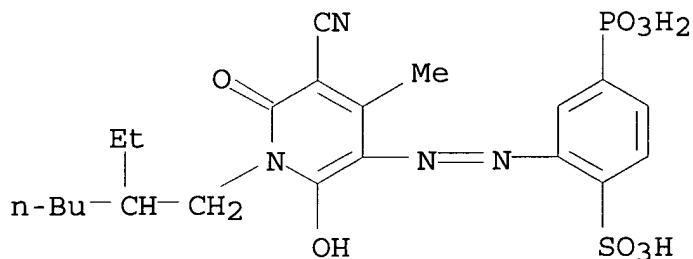


IT 278798-51-9  
 (ink-jet ink compns. of colored water-dispersible polymers for images with good light- and water-fastness and optical d.)

RN 278798-51-9 HCA  
 CN Benzenesulfonic acid, 2-[[5-cyano-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-phosphono-, compd. with 3,3,4,4-tetramethyl-1-pentanamine (1:3) (9CI) (CA INDEX NAME)

CM 1

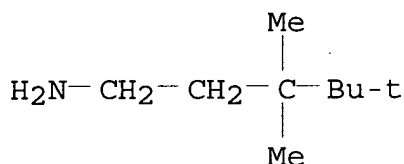
CRN 278798-50-8  
 CMF C21 H27 N4 O8 P S



CM 2

CRN 278798-46-2

CMF C9 H21 N



IC ICM C09D011-00  
ICS C09B069-10

CC 42-12 (Coatings, Inks, and Related Products)

ST hydroxy reactive colorant water dispersible polymer; **ink**  
jet **water** dispersible polymer; reactive dye hydroxy  
acrylic polymer chain extension

IT **Inks**

(jet-printing; **ink-jet ink** compns. of colored  
water-dispersible polymers for images with good light- and  
water-fastness and optical d.)

IT 2494-89-5 5427-30-5, m-Aminophenylphosphonic acid  
(in dye prepn.; **ink-jet ink** compns. of  
colored water-dispersible polymers for images with good light-  
and water-fastness and optical d.)

IT 93755-27-2P 278798-45-1P 278798-47-3P 278798-48-4P  
**278798-49-5P**

(**ink-jet ink** compns. of colored  
water-dispersible polymers for images with good light- and  
water-fastness and optical d.)

IT 108-77-0DP, Cyanuric chloride, reaction products with hydroxy  
polymer and reactive dye 12226-08-3DP, C.I. Reactive Red 11,  
reaction products with hydroxy polymer 83699-71-2DP, 2-Ethylhexyl  
acrylate-ethyl acrylate-2-hydroxyethyl acrylate-methacrylic  
acid-methyl methacrylate copolymer, reaction products with reactive  
dyes 278798-45-1DP, reaction products with hydroxy polymer  
278798-47-3DP, reaction products with hydroxy polymer  
278798-48-4DP, reaction products with hydroxy polymer  
**278798-51-9DP**, reaction products with hydroxy polymer

(ink-jet ink compns. of colored water-dispersible polymers for images with good light- and water-fastness and optical d.)

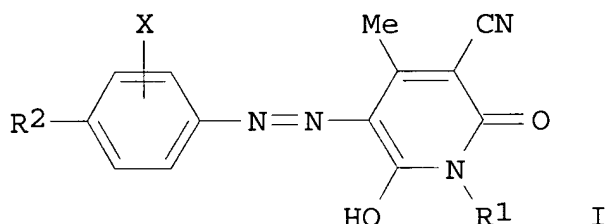
IT 12226-08-3, C.I. Reactive Red 11 51418-88-3 61433-33-8  
278798-51-9

(ink-jet ink compns. of colored water-dispersible polymers for images with good light- and water-fastness and optical d.)

L27 ANSWER 2 OF 19 HCA COPYRIGHT 2002 ACS

131:117477 Pyridone-based **yellow** monoazo dye for use in thermal transfer. Lee, Ki Taek; Son, Young Seup; Han, Woo Sok; Joo, Beom Jun; Eom, Soon Yeol (Hansol Paper Co., Ltd., S. Korea). U.S. US 5929218 A 19990727, 10 pp. (English). CODEN: USXXAM. APPLICATION: US 1996-646968 19960508.

GI



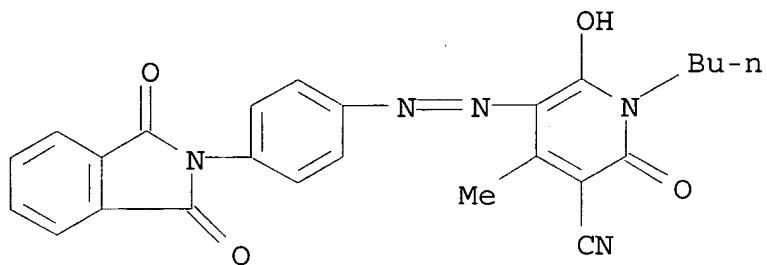
AB Monoazo dyes which have good stability and hue when used in thermal-transfer printing have the structure I [R1 = H, (un)substituted C1-8 alkyl, (un)substituted aryl; R2 = (un)substituted succinimido or maleimido or glutarimido; X = H, halo, C1-4 alkyl, alkoxy]. Thus, 4-phthalimidoaniline was diazotized and coupled with 1-butyl-3-cyano-6-hydroxy-4-methyl-2-pyridone to give I (R1 = Bu, R2 = phthalimido; X = H) in 80% yield, 4% of which was **dispersed** with 4% polybutyral resin in MeCOEt, and the compn. was coated at 1 g/m<sup>2</sup> on a 7-.mu.m poly(ethylene terephthalate) film to give a transfer sheet.

IT 232268-44-9P

(**yellow** pyridone monoazo dyes for thermal-transfer printing)

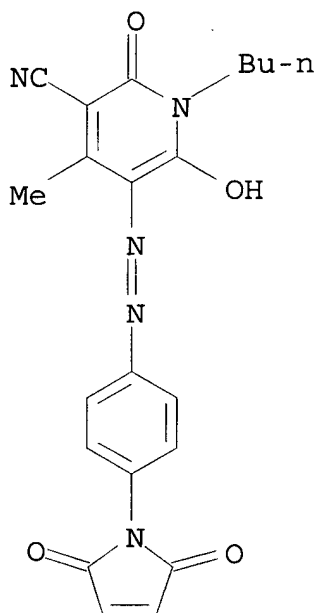
RN 232268-44-9 HCA

CN 3-Pyridinecarbonitrile, 1-butyl-5-[[4-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-(9CI) (CA INDEX NAME)

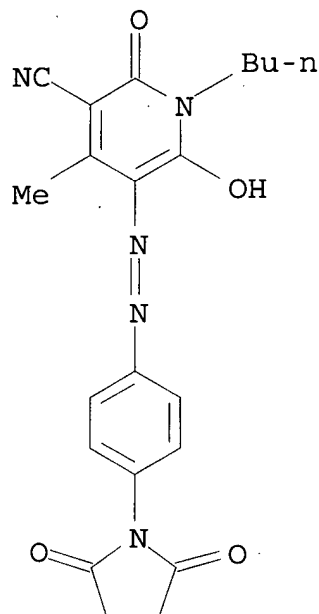


IT 232268-46-1 232268-47-2 232268-48-3  
 232268-49-4 232268-51-8 232268-52-9  
 (yellow pyridone monoazo dyes for thermal-transfer  
 printing)

RN 232268-46-1 HCA  
 CN 3-Pyridinecarbonitrile, 1-butyl-5-[[4-(2,5-dihydro-2,5-dioxo-1H-  
 pyrrol-1-yl)phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI)  
 (CA INDEX NAME)

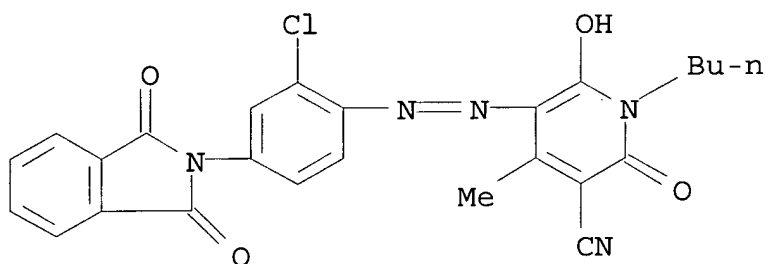


RN 232268-47-2 HCA  
 CN 3-Pyridinecarbonitrile, 1-butyl-5-[[4-(2,5-dioxo-1-  
 pyrrolidinyl)phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI)  
 (CA INDEX NAME)



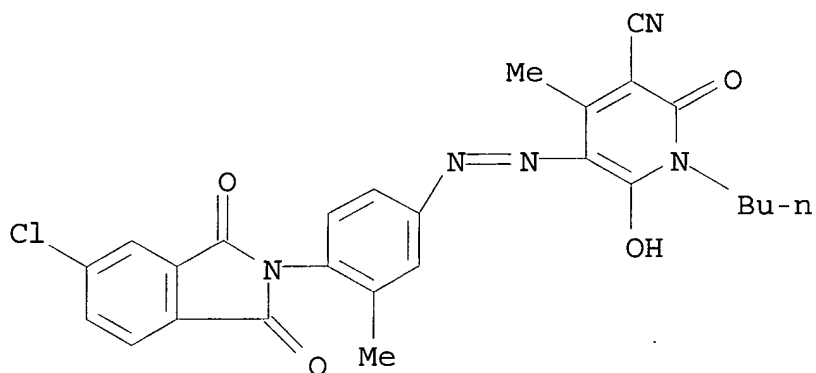
RN 232268-48-3 HCA

CN 3-Pyridinecarbonitrile, 1-butyl-5-[[2-chloro-4-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



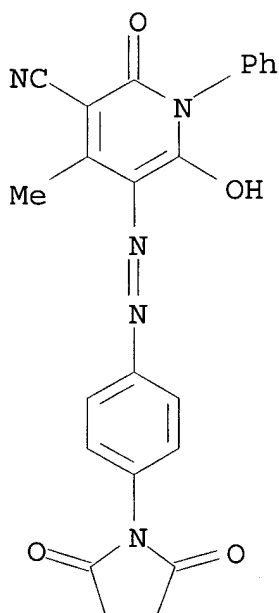
RN 232268-49-4 HCA

CN 3-Pyridinecarbonitrile, 1-butyl-5-[[4-(5-chloro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-3-methylphenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



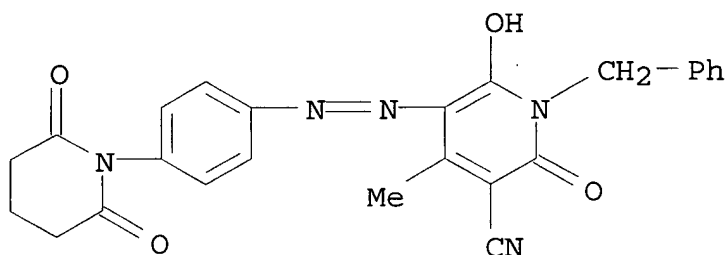
RN 232268-51-8 HCA

CN 3-Pyridinecarbonitrile, 5-[[4-(2,5-dioxo-1-pyrrolidinyl)phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-1-phenyl- (9CI) (CA INDEX NAME)



RN 232268-52-9 HCA

CN 3-Pyridinecarbonitrile, 5-[[4-(2,6-dioxo-1-piperidiny]phenyl]azo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-1-(phenylmethyl)- (9CI) (CA INDEX NAME)



- IC ICM C09B029-42  
ICS C09D011-00; C09D011-02
- NCL 534772000
- CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- ST **yellow** monoazo dye thermal transfer printing
- IT **Inks**  
(printing, thermal-transfer; **yellow** pyridone monoazo dyes for)
- IT Azo dyes  
(**yellow** pyridone monoazo dyes for thermal-transfer printing)
- IT 39108-47-9, 1-Butyl-3-cyano-6-hydroxy-4-methyl-2-pyridone  
(coupling component; **yellow** pyridone monoazo dyes for thermal-transfer printing)
- IT 21835-60-9, 4-Phthalimidoaniline  
(diazo component; **yellow** pyridone monoazo dyes for thermal-transfer printing)
- IT **232268-44-9P**  
(**yellow** pyridone monoazo dyes for thermal-transfer printing)
- IT **232268-46-1 232268-47-2 232268-48-3**  
**232268-49-4 232268-50-7 232268-51-8**  
**232268-52-9**  
(**yellow** pyridone monoazo dyes for thermal-transfer printing)
- L27 ANSWER 3 OF 19 HCA COPYRIGHT 2002 ACS
- 129:82856 **Ink**-jet **ink** set and recording and recording apparatus using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance. Teraoka, Hisashi; Katsuragi, Takashi; Oosuni, Koichi; Takisawa, Yoshihisa; Hattori, Yoshifumi (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 10140064 A2 19980526 Heisei, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-315675 19961113.
- AB The title set comprises a black **ink** using carbon black colorant having hydrophilic groups introduced on the surface directly or via certain groups of atoms for self **dispersion** capabilities and color **inks** using colorants having polarity opposite to the black **ink**. An **ink** set



comprises a black **ink** from p-trimethylammonio benzenediazonium-treated carbon black, ethylene glycol, triethylene glycol, 1,5-pentanediol, and water; a **water**-thinned **yellow ink** based on C.I. Acid **Yellow** 23 (anionic); a **water**-thinned magenta **ink** based on C.I. Acid Red 52 (anionic); and a **water**-thinned cyan **ink** based on C.I. Direct Blue 199 (anionic).

IT 179629-44-8

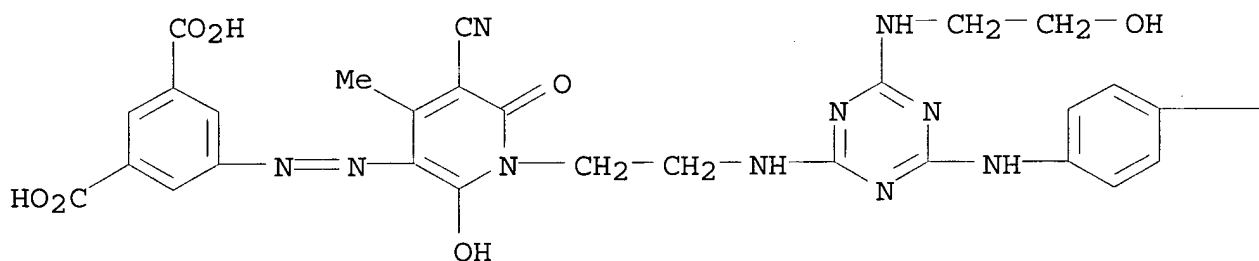
(**ink**-jet **ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

RN 179629-44-8 HCA

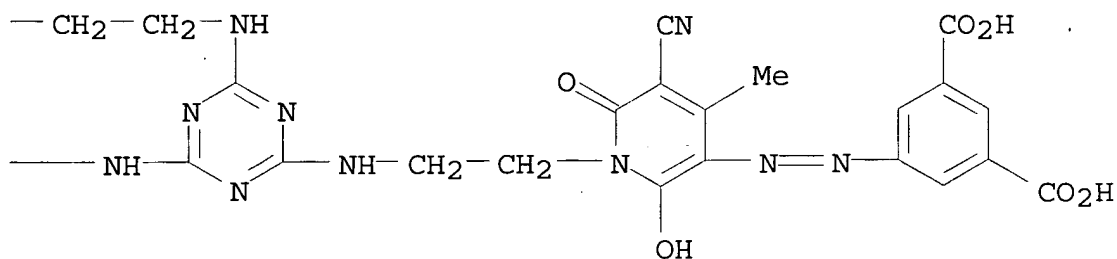
CN 1,3-Benzenedicarboxylic acid, 5,5'-[1,4-phenylenebis[imino[6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino-2,1-ethanediyl(5-cyano-2-hydroxy-4-methyl-6-oxo-1,3(6H)-pyridinediyl)azo]]bis- (9CI)  
(CA INDEX NAME)

PAGE 1-A

HO—



PAGE 1-B



IC ICM C09D011-00

ICS B41J002-01

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 41

ST jet printing **ink** set dye; carbon black jet printing **ink** set

IT Dyes

**Ink-jet printers**

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT Polyolefins

Polyurethanes, uses

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT Carbon black, uses

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT **Inks**

(jet-printing; **ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT 57419-34-8P, 4-Aminophenacylpyridinium chloride

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT 9003-11-6, Pepol AS-053X 9014-85-1, Acetylenol EH

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT 9003-20-7, Poly(vinyl acetate) 9004-34-6, Cellulose, uses

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

IT 110-86-1, Pyridine, reactions 140-49-8, 4-Acetamidophenacyl chloride 62654-12-0

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

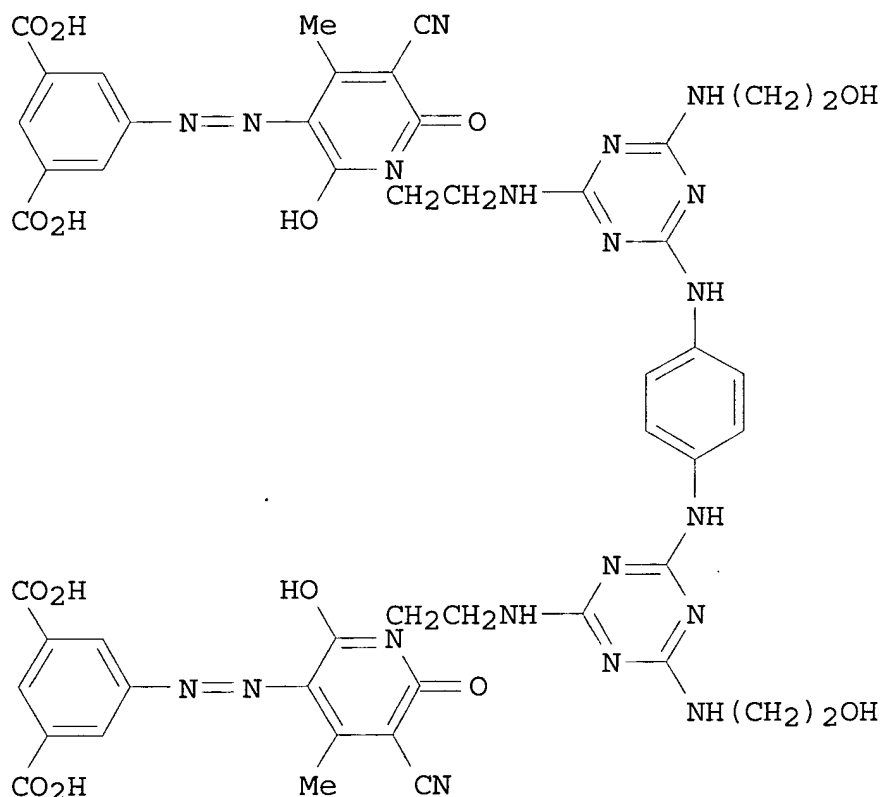
IT 147-14-8D, sulfonated, triazinetriamine group-contg. 1934-21-0, C.I. Acid **Yellow** 23 3520-42-1, C.I. Acid Red 52

12222-04-7, C.I. Direct Blue 199 163212-03-1 163212-04-2  
179629-44-8 209005-08-3

(**ink-jet ink** set and recording and recording app. using the same for color images with no bleeding between black and color **inks** and giving black images with good water and light resistance)

128:142133 **Ink-jet inks** and **ink-jet**  
 recording using the same with good **ink** ejection  
 reliability, sufficient image density, rapid drying, and no  
 blotting. Yamashita, Yoshio; Hashimoto, Takeshi; Inoue, Hiroshi  
 (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10017803  
 A2 19980120 Heisei, 35 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1996-177599 19960708.

GI



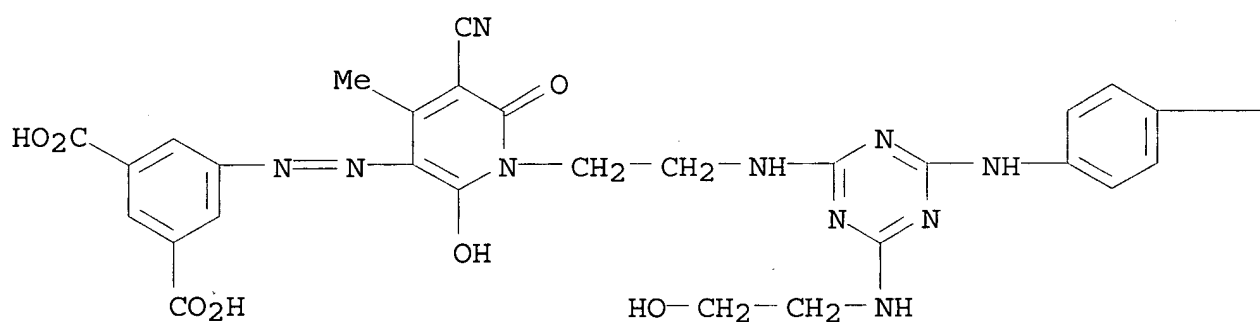
AB The title **inks** (surface tension 20-40 mN/m, pH  
 .gtoreq.7.5) based on water, colorants, and water-miscible org.  
 solvents contain 0.1-3% carboxy (or salt) group-contg. polymer with  
 mol. wt. 1000-2000, 1-20% water-sol. solid org. compds. showing  
 .gtoreq.50% evapn. at 100-350.degree., and 1-20% ROXnH (R = C4-8  
 alkyl, alkenyl, alkynyl, Ph, alkylphenyl, alkenylphenyl, cycloalkyl;  
 X = oxyethylene, oxypropylene; n = 1-4). An **ink** comprised  
 I (ammonium salt) 2, urea 5, styrene-Na methacrylate copolymer (1:1,  
 mol. wt. 7000) 1, Butyl Carbitol 5, thiodiethanol 15, and water 72  
 parts.  
 IT 165178-42-7  
 (**ink-jet inks** and **ink-jet** recording

using the same with good **ink** ejection reliability,  
sufficient image d., rapid drying, and no blotting)

RN 165178-42-7 HCA

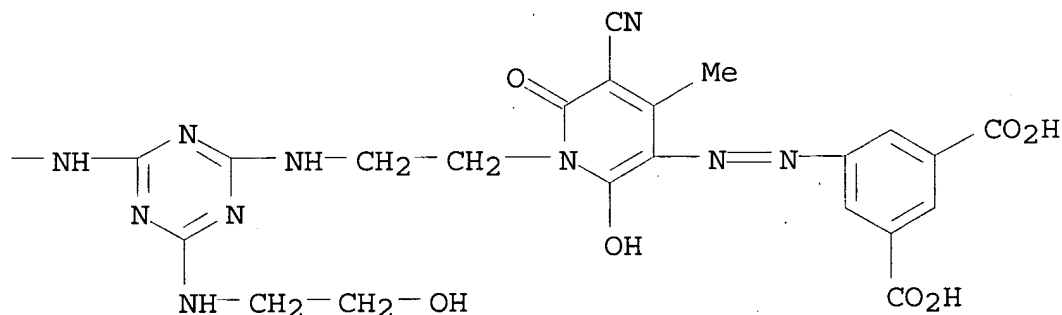
CN 1,3-Benzenedicarboxylic acid, 5,5'-[1,4-phenylenebis[imino[6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino-2,1-ethanediyl(5-cyano-2-hydroxy-4-methyl-6-oxo-1,3(6H)-pyridinediyl)azo]]bis-, ammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● x NH<sub>3</sub>

PAGE 1-B



IC ICM C09D011-00

ICS B41J002-01; B41M005-00; C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)

ST **waterborne** jet printing **ink** carboxy polymer; org  
solvent **waterborne** jet printing **ink**; urea  
**waterborne** jet printing **ink**

- IT Dyes  
Nonionic surfactants  
(**ink-jet inks** and **ink-jet** recording  
using the same with good **ink** ejection reliability,  
sufficient image d., rapid drying, and no blotting)
- IT Glycol ethers  
Glycols, uses  
(**ink-jet inks** and **ink-jet** recording  
using the same with good **ink** ejection reliability,  
sufficient image d., rapid drying, and no blotting)
- IT Carbon black, uses  
(**ink-jet inks** and **ink-jet** recording  
using the same with good **ink** ejection reliability,  
sufficient image d., rapid drying, and no blotting)
- IT Polysiloxanes, uses  
(polyoxyalkylene-; **ink-jet inks** and  
**ink-jet** recording using the same with good **ink**  
ejection reliability, sufficient image d., rapid drying, and no  
blotting)
- IT Polyoxyalkylenes, uses  
(polysiloxane-; **ink-jet inks** and **ink**  
-jet recording using the same with good **ink** ejection  
reliability, sufficient image d., rapid drying, and no blotting)
- IT **Ink-jet inks**  
(**water**-thinned; **ink-jet inks** and  
**ink-jet** recording using the same with good **ink**  
ejection reliability, sufficient image d., rapid drying, and no  
blotting)
- IT 106392-12-5, Pluronic 3100  
(Pluronic 3100, Pluronic 6400; **ink-jet inks**  
and **ink-jet** recording using the same with good  
**ink** ejection reliability, sufficient image d., rapid  
drying, and no blotting)
- IT 56-81-5, 1,2,3-Propanetriol, uses 57-13-6, Urea, uses 57-55-6,  
1,2-Propanediol, uses 62-56-6, Thiourea, uses 96-31-1,  
N,N'-Dimethylurea 106-69-4, 1,2,6-Hexanetriol 107-21-1,  
1,2-Ethanediol, uses 107-43-7, Betaine 111-29-5, 1,5-Pentanediol  
111-46-6, Diethylene glycol, uses 111-48-8 112-34-5, Butyl  
Carbitol 112-59-4, Hexyl Carbitol 120-93-4, Ethyleneurea  
126-33-0, Sulfolane 126-86-3, Surfynol 104 598-50-5,  
N-Methylurea 616-45-5, 2-Pyrrolidone 1320-67-8, Propylene glycol  
monomethyl ether 1559-34-8, Tetraethylene glycol monobutyl ether  
9003-57-0, Potassium methacrylate-styrene copolymer 9036-19-5,  
Polyethylene glycol octylphenyl ether 18912-81-7, Diethylene  
glycol monopentyl ether 25265-71-8, Dipropylene glycol  
26950-79-8, Methyl methacrylate-sodium methacrylate copolymer  
29387-86-8, Propylene glycol monobutyl ether 33970-45-5, Sodium  
methacrylate-styrene copolymer 35884-42-5, Dipropylene glycol  
monobutyl ether 37286-89-8, Sodium Maleate-styrene copolymer  
39332-53-1, Acrylic acid-methacrylic acid-methyl methacrylate  
copolymer 39619-69-7, Tetraethylene glycol monohexyl ether  
55031-88-4, Isobutylene-sodium maleate copolymer 75034-36-5,

Acrylic acid-propyl acrylate copolymer 88215-93-4, Ammonium methacrylate-styrene copolymer 113177-31-4, Ammonium acrylate-styrene copolymer 121749-03-9, Lithium acrylate-styrene copolymer 200960-77-6, Fluorad FC 104 201932-28-7, Styrene-triethanolamine maleate copolymer 201932-30-1, Butyl methacrylate-lithium maleate copolymer 201932-31-2, Methacrylic acid-methylammonium methacrylate copolymer

(**ink-jet inks** and **ink-jet** recording

using the same with good **ink** ejection reliability, sufficient image d., rapid drying, and no blotting)

IT 143-22-6, Triethylene glycol monobutyl ether 147-14-8D, Copper phthalocyanine, derivs., lithium salts 980-26-7, C.I. Pigment Red 122 2118-39-0, C.I. Food Black 2 2650-18-2, C.I. Acid Blue 9 37286-88-7, Lithium maleate-styrene copolymer 90249-28-8, C.I. Direct Yellow 144 140691-98-1 **165178-42-7** 173402-16-9, X 34 199297-51-3, Basacid Black X 38 201932-24-3 201932-25-4 201932-26-5 201932-27-6 201932-29-8 202004-34-0

(**ink-jet inks** and **ink-jet** recording

using the same with good **ink** ejection reliability, sufficient image d., rapid drying, and no blotting)

L27 ANSWER 5 OF 19 HCA COPYRIGHT 2002 ACS

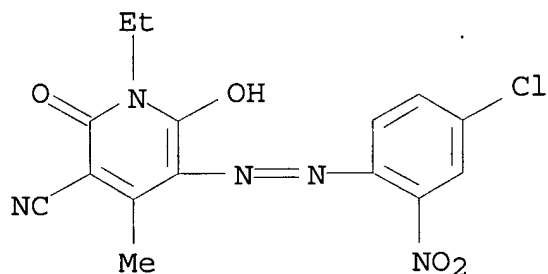
126:187320 Surfactant-enhanced dyeing of textiles. Gamblin, Rodger L. (Gamblin, Rodger L., USA). U.S. US 5593459 A 19970114, 11 pp. (English). CODEN: USXXAM. APPLICATION: US 1994-327631 19941024.

AB Cationic dyes and protonated **disperse** and solvent dyes are solubilized by an excess (over molar equivalence) of an anionic surfactant to form dye baths and **inks** for textile fibers. The fibers include silk, wool, nylon, triacetate, vinyl, and cationic dye receptive polyesters and polyolefins. Nylon, silk, and wool were dyed with phenylazoaniline in the presence of dodecylbenzenesulfonic acid.

IT **70528-90-4**, C.I. **Disperse Yellow** 211  
(**Disperse Yellow** 211; surfactant-enhanced dyeing of textiles)

RN 70528-90-4 HCA

CN 3-Pyridinecarbonitrile, 5-[(4-chloro-2-nitrophenyl)azo]-1-ethyl-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



IC ICM D06P001-62  
NCL 008539000

CC 40-6 (Textiles and Fibers)  
 IT **Disperse** dyes  
 (surfactant-enhanced dyeing of textiles)  
 IT 70528-90-4, C.I. **Disperse Yellow** 211  
 (**Disperse Yellow** 211; surfactant-enhanced  
 dyeing of textiles)  
 IT 60-11-7, C.I.Solvent **Yellow** 2 61-73-4, Basic Blue 9  
 65-61-2, Basic Orange 14 72-48-0, Alizarin 81-39-0, Solvent Red  
 52 81-42-5, **Disperse** Violet 28 81-68-5,  
**Disperse** Red 86 82-38-2, Solvent Red 111; 97-56-3,  
 C.I.Solvent **Yellow** 3 116-85-8, **Disperse** Red 15  
 128-95-0, **Disperse** Violet 1 532-82-1, Basic Orange 2  
 730-40-5, **Disperse** Orange 3 842-07-9, Solvent  
**Yellow** 14 1229-55-6, Solvent Red 1 2152-64-9, Solvent  
 Blue 23 2379-90-0, **Disperse** Red 4 2390-60-5, Basic  
 Blue 7 2465-27-2, Basic **Yellow** 2 2475-46-9,  
**Disperse** Blue 3 2481-94-9, Solvent **Yellow** 56;  
 2580-56-5, Basic Blue 26 2581-69-3, **Disperse** Orange 1  
 2646-17-5, Solvent Orange 2 2832-40-8, **Disperse**  
**Yellow** 3 2872-48-2, **Disperse** Red 11 2872-52-8,  
**Disperse** Red 1 3118-97-6, C.I.Solvent Orange 7  
 3179-89-3, **Disperse** Red 17 3179-90-6, **Disperse**  
 Blue 7 3180-81-2, **Disperse** Red 13 3521-06-0, Basic  
 Blue 1 3769-57-1, **Disperse** Red 5 4058-30-4,  
**Disperse** Orange 44; 4208-80-4, Basic **Yellow** 11  
 4438-16-8, Basic Orange 1 5124-25-4, C.I.**Disperse**  
**Yellow** 42 5261-31-4, **Disperse** Orange 30  
 6250-23-3, **Disperse** **Yellow** 23 6300-37-4,  
**Disperse** **Yellow** 7 6320-14-5, Atlantic Paper Red  
 P 6358-36-7, C.I.Basic **Yellow** 37 6359-50-8, Basic  
**Yellow** 21 6408-72-6, **Disperse** Violet 26  
 6439-53-8, **Disperse** **Yellow** 5 6657-37-0,  
**Disperse** Red 54 7576-65-0, **Disperse**  
**Yellow** 54 8003-22-3, Solvent **Yellow** 33  
 10319-14-9, **Disperse** **Yellow** 64 11099-03-9,  
 Solvent Black 5 12217-50-4, Basic **Yellow** 13  
 12217-80-0, **Disperse** Blue 60 12221-86-2, Basic  
**Yellow** 40 12222-69-4, **Disperse** Black 9  
 12222-75-2, **Disperse** Blue 35 12222-78-5,  
**Disperse** Blue 73 12222-85-4, **Disperse** Blue 87  
 12222-97-8, C.I.**Disperse** Blue 102 12223-01-7,  
**Disperse** Blue 106 12239-34-8, **Disperse** Blue 79  
 12270-13-2, Basic Blue 41 13301-61-6, **Disperse** Orange 37  
 14233-37-5, Solvent Blue 36 15000-59-6, Basic Blue 54  
 16586-43-9, **Disperse** Red 65 16889-10-4, **Disperse**  
 Red 73 17354-14-2, Solvent Blue 35 17418-58-5, **Disperse**  
 Red 60 19800-42-1, **Disperse** Orange 29 26850-12-4,  
**Disperse** Red 167 27195-22-8, Phenylazoaniline  
 27425-55-4, **Disperse** **Yellow** 82 30124-94-8,  
**Disperse** Red 82 31482-56-1, **Disperse** Orange 25  
 31810-89-6, **Disperse** Blue 56 34231-26-0,  
**Disperse** Red 91 39279-59-9, C.I.Basic **Yellow** 29

40880-51-1, **Disperse** Red 50 54060-92-3, Basic  
**Yellow** 28 55840-82-9, Basic Blue 3 58051-96-0, C.I.  
**Disperse** Red 135 61813-59-0, C.I.Solvent **Yellow**  
 13 61901-90-4, C.I.Solvent Orange 20 61951-64-2,  
**Disperse** Red 179; 61969-47-9, Solvent Orange 60;  
 66882-16-4, C.I.**Disperse** Violet 33 67577-84-8, Solvent  
 Violet 14 68133-69-7, **Disperse** Red 177 71767-67-4,  
 C.I. **Disperse Yellow** 163 72363-26-9,  
**Disperse** Red 92 83929-84-4, C.I.**Disperse** Blue  
 291 88385-22-2, Basic **Yellow** 51 96024-06-5, C.I.Basic  
 Orange 16 141092-96-8, Neofix R-250 164715-81-5, Neofix E-117  
 187413-62-3, C.I. Basic Orange 3 187413-63-4, C.I. Basic Orange 10  
 187413-64-5, C.I. Basic Orange 4 187413-65-6, C.I.  
**Disperse** Red 176:1

(surfactant-enhanced dyeing of textiles)

L27 ANSWER 6 OF 19 HCA COPYRIGHT 2002 ACS

123:59128 Disazo dyes suitable for use in **ink** jet printing.

Gregory, Peter; Kenyon, Ronald W. (Zeneca Ltd., UK). U.S. US

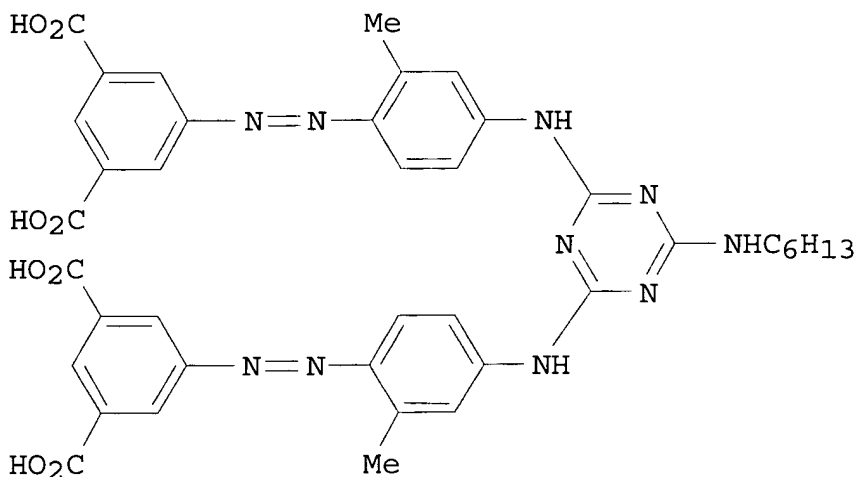
5374301 A 19941220, 15 pp. Cont.-in-part of U.S. 5,268,459.

(English). CODEN: USXXAM. APPLICATION: US 1992-983170 19921130.

PRIORITY: GB 1990-16448 19900726; US 1991-723323 19910628; GB

1992-17963 19920924.

GI



AB An **ink** comprises a liq. medium and a compd.  
 ArN:NJNR1X(NR2LNR3X1)nNR4J1N:NAr1 (I; in which L = a divalent org.  
 group, R1-4 = H or (un)substituted alkyl; X, X1 = CO or divalent  
 residues of substituted s-triazines, pyrimidines, or  
 chloropyridines; J,J1 = divalent residues of substituted benzenes,  
 hydroxypyridones, or phenylpyrazolones; Ar, Ar1 = aryl, .gtoreq.1  
 contains .gtoreq.1 CO2H or COSH groups; and n = 0 or 1) or its salt:  
 provided (i) if I has no SO3H groups then it has .gtoreq.2 groups



selected from COOH and COSH; and (ii) the compd. I has at least as many groups selected from COOH and COSH as SO<sub>3</sub>H groups. Thus, 5-aminoisophthalic acid was diazotized and coupled with m-toluidine, and the product was condensed 2:1 with cyanuric chloride and then with hexylamine to give II, which was treated with NH<sub>4</sub>OH, dialyzed to remove Cl<sup>-</sup>, and dissolved in 92.5:7.5 H<sub>2</sub>O-O(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub> to give a yellow ink.

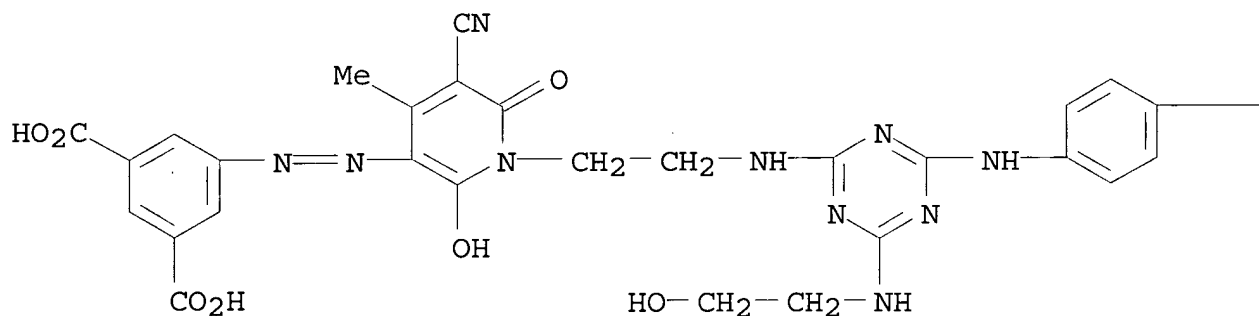
IT 165178-42-7P

(manufd. disazo dyes suitable for use in ink jet printing)

RN 165178-42-7 HCA

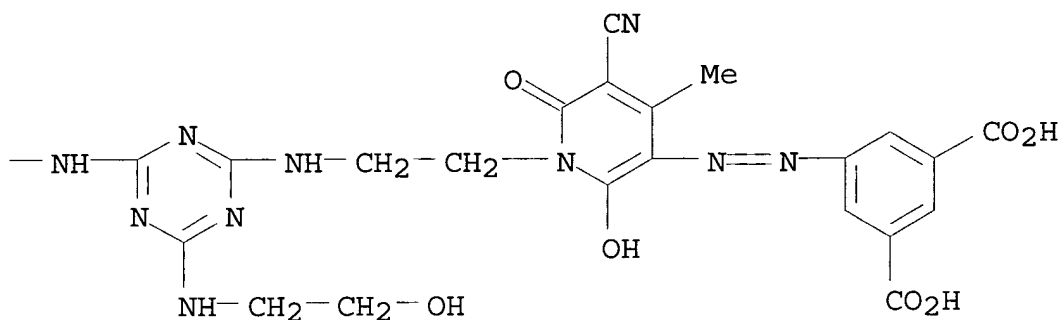
CN 1,3-Benzenedicarboxylic acid, 5,5'-[1,4-phenylenebis[imino[6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino-2,1-ethanediyl(5-cyano-2-hydroxy-4-methyl-6-oxo-1,3(6H)-pyridinediyl)azo]]bis-, ammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A



●x NH<sub>3</sub>

PAGE 1-B



IC ICM C09D011-02

NCL 106-22K

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 41

ST disazo dye jet printing **ink**; carboxyphenyl azo dye yellow;  
triazine disazo dye **ink**

IT Dyes, azo

(disazo yellow dyes suitable for use in **ink** jet  
printing)IT **Inks**(jet-printing, **water**-thinned, disazo yellow dyes  
suitable for use in **ink** jet printing)

IT	151151-38-1P	165178-40-5P	165178-41-6P	<b>165178-42-7P</b>
	165178-43-8P	165178-44-9P	165178-45-0P	165178-46-1P
	165178-47-2P	165178-48-3P	165178-49-4P	165178-50-7P
	165178-51-8P	165178-52-9P	165178-53-0P	165178-54-1P
	165178-55-2P	165178-56-3P	165178-57-4P	165178-58-5P
	165178-59-6P	165178-60-9P	165178-61-0P	165178-62-1P
	165178-63-2P	165178-64-3P	165178-65-4P	165178-66-5P
	165178-67-6P	165178-68-7P		

(manufd. disazo dyes suitable for use in **ink** jet  
printing)

L27 ANSWER 7 OF 19 HCA COPYRIGHT 2002 ACS

123:11758 Printing process and printed and processed article obtained thereby. Shiota, Koromo; Haruta, Masahiro; Koike, Shoji; Takaide, Aya; Yamamoto, Tomoya; Suzuki, Mariko (Canon K. K., Japan). Eur. Pat. Appl. EP 633345 A2 19950111, 19 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1994-110609 19940707. PRIORITY: JP 1993-170461 19930709.

AB A printing process in which .gtoreq.3 **inks**, **yellow**, **red**, and **cyan**, are applied to a cloth dyeable with **disperse** dyes by an **ink**-jet system comprises .gtoreq.3 steps consisting of applying .gtoreq.2 **inks** to the fabric such that at least a part of the 2 **inks** overlap each other, heat-treating the fabric, and washing the heat-treated

fabric. Each of the **inks** comprises a specified **disperse** dye, a compd. for **dispersing** the coloring matter, and an aq. liq. medium. **Yellow**, red, and cyan **inks** were prepd. contg. C.I. **Disperse**

**Yellow** 93, C.I. **Disperse** Red 92, and C.I.

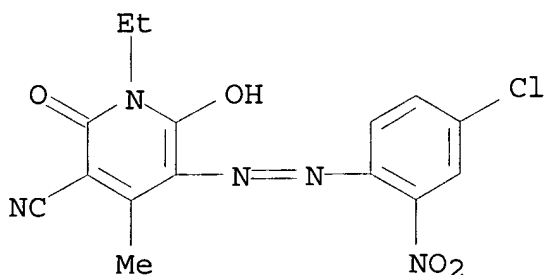
**Disperse** Blue 87, resp., and **ink-jet** printed on a treated polyester fabric giving a print whose coloring stability does not vary with the heating conditions with deep colors produced in the 100% printing d. portions in all 3 combinations compared to somewhat color dependent and no deep color prints, resp., when the **yellow**, red, and blue **disperse** dyes did not belong to the specified **disperse** dyes.

IT 70528-90-4, C.I. **Disperse** Yellow 211

(printing process, and print and processed article obtained thereby)

RN 70528-90-4 HCA

CN 3-Pyridinecarbonitrile, 5-[(4-chloro-2-nitrophenyl)azo]-1-ethyl-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



IC ICM D06P001-00

ICS B41M005-00

CC 40-6 (Textiles and Fibers)

ST **ink** jet printing **disperse** dye; polyester

**ink** jet printing **disperse**; selection

**disperse** dye jet printing

IT Textile printing

(**ink-jet**, process for and print and processed article obtained thereby)

IT 81-68-5, C.I. **Disperse** Red 86 5124-25-4, C.I.

**Disperse** Yellow 42 6439-53-8, C.I.

**Disperse** Yellow 5 7576-65-0, C.I.

**Disperse** Yellow 54 10319-14-9, C.I.

**Disperse** Yellow 64 12217-04-8, C.I.

**Disperse** Red 88 12217-80-0, C.I. **Disperse** Blue

60 12217-86-6, C.I. **Disperse** Red 54 12222-85-4, C.I.

**Disperse** Blue 87 12223-39-1, C.I. **Disperse** Red

72 12223-57-3, C.I. **Disperse** Red 111 12223-69-7, C.I.

**Disperse** Red 134 12236-11-2, C.I. **Disperse** Red

92 12236-12-3, C.I. **Disperse** Red 93 12236-21-4, C.I.

**Disperse** Red 126 12236-36-1, C.I. **Disperse**

Yellow 79 12270-47-2, C.I. **Disperse**

**Yellow** 83 12768-88-6, C.I. **Disperse** Violet 3  
 16889-10-4, C.I. **Disperse** Red 73 25857-05-0, C.I.  
**Disperse** Yellow 99 56509-56-9, C.I.  
**Disperse** Yellow 93 57308-41-5, C.I.  
**Disperse** Yellow 119 58051-96-0, C.I.  
**Disperse** Red 135 61968-28-3, C.I. **Disperse** Blue  
 143 61968-33-0, C.I. **Disperse** Blue 176 61968-36-3,  
 C.I. **Disperse** Blue 185 61968-49-8, C.I. **Disperse**  
 Red 159 61968-57-8, C.I. **Disperse** Red 204 61968-68-1,  
 C.I. **Disperse** Yellow 122 61968-70-5, C.I.  
**Disperse** Yellow 126 63439-92-9, C.I.  
**Disperse** Yellow 198 64426-35-3, C.I.  
**Disperse** Red 221 66795-75-3, C.I. **Disperse** Red  
 127 68133-69-7, C.I. **Disperse** Red 177 68248-10-2, C.I.  
**Disperse** Red 278 70528-90-4, C.I. **Disperse**  
**Yellow** 211 71767-66-3, C.I. **Disperse** Red 143  
 74239-96-6, C.I. **Disperse** Blue 354 75216-43-2, C.I.  
**Disperse** Yellow 160 77907-27-8, C.I.  
**Disperse** Red 288 77907-28-9, C.I. **Disperse** Red  
 311 78564-86-0, C.I. **Disperse** Red 152 78564-87-1, C.I.  
**Disperse** Red 153 79300-13-3, C.I. **Disperse** Red  
 167:1 80892-58-6, C.I. **Disperse** Red 164 82230-09-9,  
 C.I. **Disperse** Blue 198 84931-04-4, C.I. **Disperse**  
 Red 348 86438-38-2, C.I. **Disperse** Red 181 88650-97-9,  
 C.I. **Disperse** Red 145 88650-98-0, C.I. **Disperse**  
 Red 154 88650-99-1, C.I. **Disperse** Red 258 88651-00-7,  
 C.I. **Disperse** Red 323 88651-03-0, C.I. **Disperse**  
**Yellow** 224 99035-78-6, C.I. **Disperse** Red 343  
 120797-62-8, C.I. **Disperse** Red 283 129710-76-5, C.I.  
**Disperse** Red 206 152165-67-8, C.I. **Disperse** Red  
 356 159131-66-5, C.I. **Disperse** Red 207 161445-25-6,  
 C.I. **Disperse** Yellow 237 163751-77-7, C.I.  
**Disperse** Yellow 204

(printing process, and print and processed article obtained thereby)

L27 ANSWER 8 OF 19 HCA COPYRIGHT 2002 ACS

122:252209 Sublimation-type thermal transfer medium for copiers and printers. Ariga, Yutaka; Mochizuki, Hidehiro; Kuboyama, Hironori (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07025170 A2 19950127 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-170259 19930709.

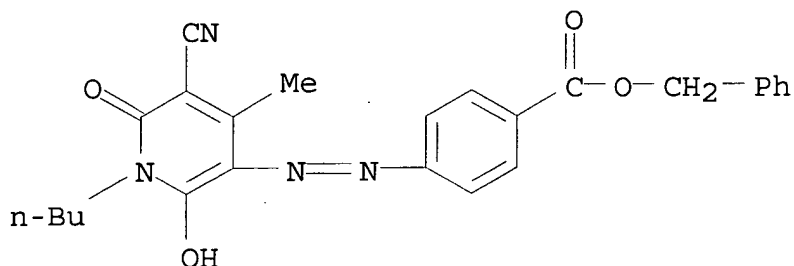
AB In a thermal transfer medium in which .gtoreq. 2 types of layers, contg. thermally transferable dyes **dispersed** in an org. binder, are deposited on a support, each of the above layers contains .gtoreq. 2 types of thermally transferable dyes of the same color tone, and the proportions of the dyes differ from layer to layer. Of the thermally transferable dyes, those having greater soly. in org. solvents are present in lower proportion in the lower layers. The multi-copy-providing and initial coloring characteristics of the medium are significantly improved.

IT 75199-13-2, Foron Brilliant **Yellow** S6GL

(mobile dye; thermal transfer **ink** sheet contg.)

RN 75199-13-2 HCA

CN Benzoic acid, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, phenylmethyl ester (9CI) (CA INDEX NAME)



IC ICM B41M005-38

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal transfer **ink** sheet

IT Printing, nonimpact

(thermal-transfer, **ink** sheet for)

IT 6408-72-6, Macrolex Red Violet R 75199-13-2, Foron

Brilliant **Yellow** S6GL 80748-21-6, Macrolex**Yellow** 6G 83712-68-9, Foron Brilliant Blue 145992-50-3,

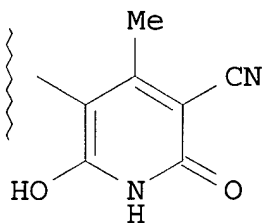
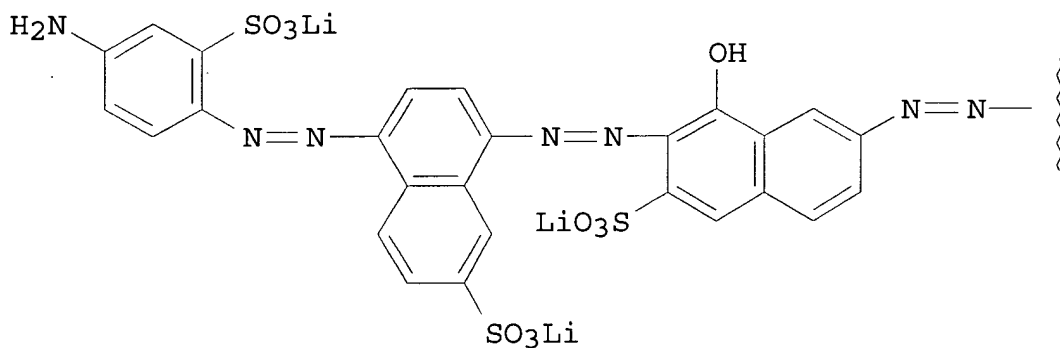
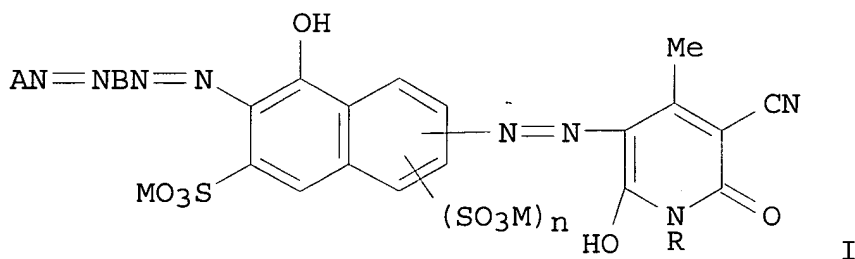
HM 1041 145992-52-5, HSO-144

(mobile dye; thermal transfer **ink** sheet contg.)

L27 ANSWER 9 OF 19 HCA COPYRIGHT 2002 ACS

122:83945 Storage-stable black recording fluids containing trisazo dyes.  
 Sano, Hideo; Murata, Jukichi; Yoneyama, Tomio (Mitsubishi Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 06192604 A2 19940712 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-344709 19921224.

GI



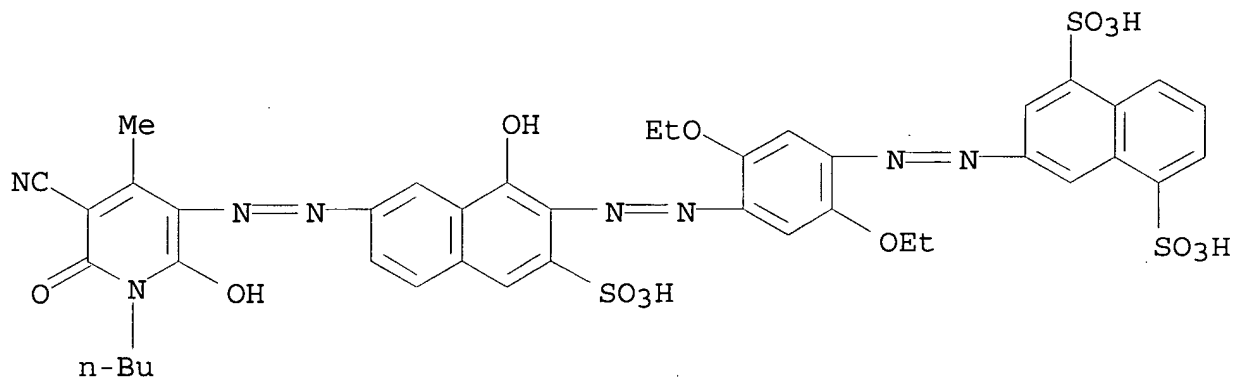
AB The title fluids, useful for jet printing and giving light- and water-resistant images, contain aq. media and trisazo dyes I [A = (substituted) Ph, (substituted) naphthyl; B = (substituted) phenylene, (substituted) naphthylene; R = H, (substituted) alkyl; M = alkali metal, NH<sub>4</sub>, org. amine; n = 0-1]. An **aq. ink** contg. II 2.5, diethylene glycol 20, N-methylpyrrolidone 5, triethanolamine 3, and iso-PrOH 3% showed good storage stability at 5.degree. or 60.degree..

IT 160004-67-1 160004-68-2 160004-69-3  
160004-70-6 160004-72-8 160004-74-0  
160004-75-1 160004-76-2 160004-77-3  
160004-79-5

(in stable black **ink** for jet printing with light and water resistance)

RN 160004-67-1 HCA

CN 1,5-Naphthalenedisulfonic acid, 3-[[4-[[7-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-2,5-diethoxyphenyl]azo]-, trisodium salt (9CI)  
(CA INDEX NAME)

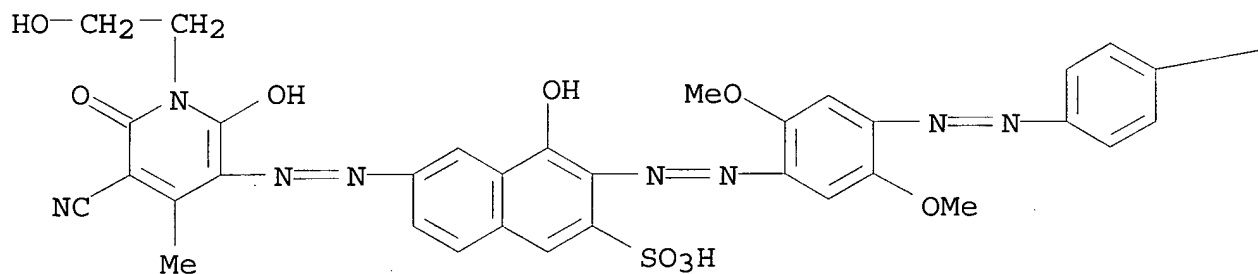


● 3 Na

RN 160004-68-2 HCA

CN 2-Naphthalenesulfonic acid, 6-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-3-[[2,5-dimethoxy-4-[(4-sulfophenyl)azo]phenyl]azo]-4-hydroxy-, dipotassium salt (9CI)  
(CA INDEX NAME)

PAGE 1-A



● 2 K

PAGE 1-B

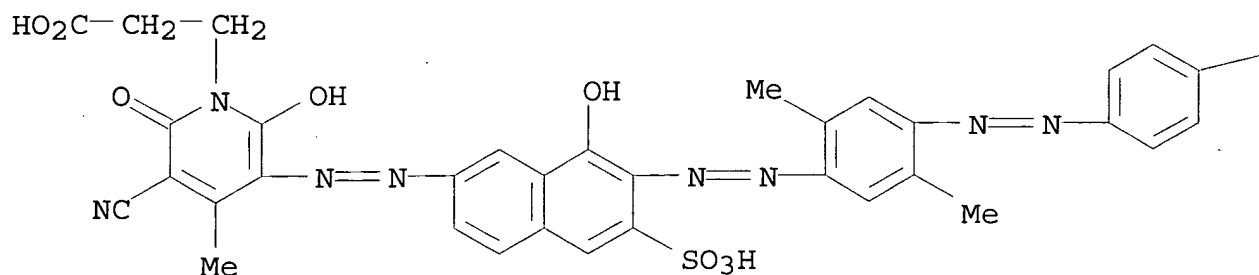
—SO<sub>3</sub>H

RN 160004-69-3 HCA

CN 1(2H)-Pyridinepropanoic acid, 5-[[7-[[4-[(4-carboxyphenyl)azo]-2,5-dimethylphenyl]azo]-8-hydroxy-6-sulfo-2-naphthalenyl]azo]-3-cyano-6-

hydroxy-4-methyl-2-oxo-, triammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A

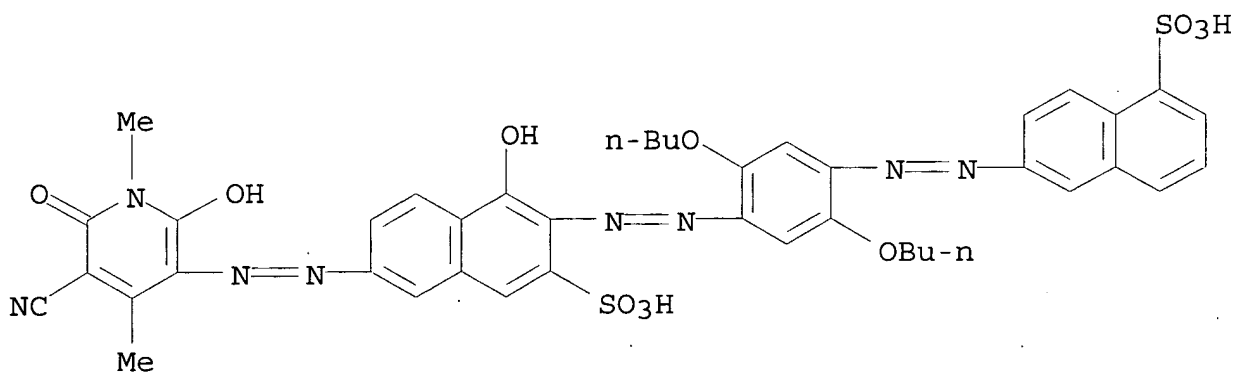
● 3 NH<sub>3</sub>

PAGE 1-B

—CO<sub>2</sub>H

RN 160004-70-6 HCA

CN 1-Naphthalenesulfonic acid, 6-[[2,5-dibutoxy-4-[[6-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]phenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)



2 Li

RN 160004-72-8 HCA

CN 2-Naphthalenesulfonic acid, 3-[[4-[[4-(acetylamino)-2-

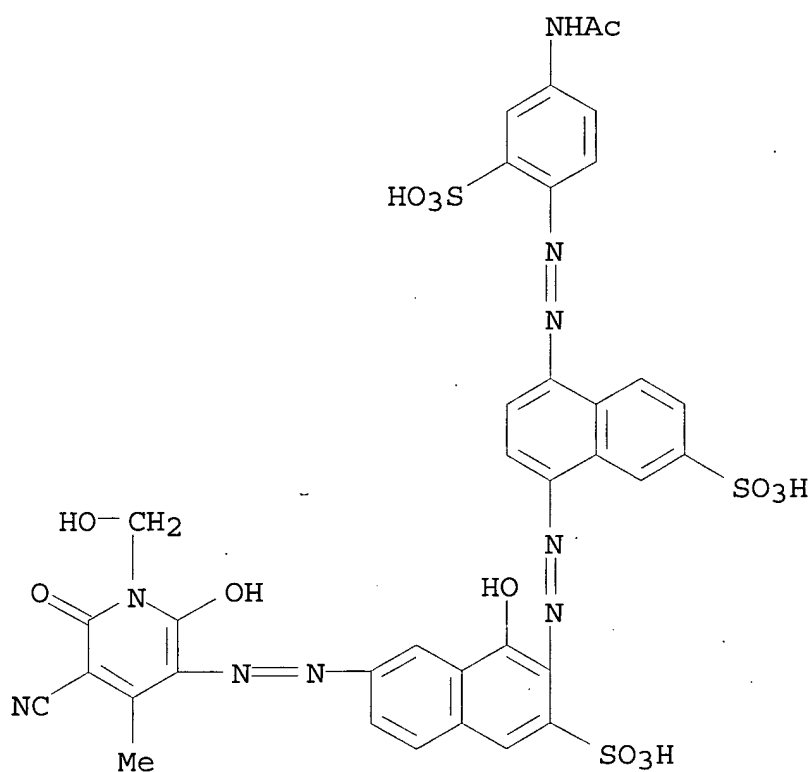


sulfophenyl]azo]-7-sulfo-1-naphthalenyl]azo]-6-[[5-cyano-1,6-dihydro-2-hydroxy-1-(hydroxymethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-4-hydroxy-, compd. with N,N-dimethylmethanamine (1:3) (9CI) (CA INDEX NAME)

CM 1

CRN 160004-71-7

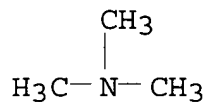
CMF C36 H27 N9 O14 S3



CM 2

CRN 75-50-3

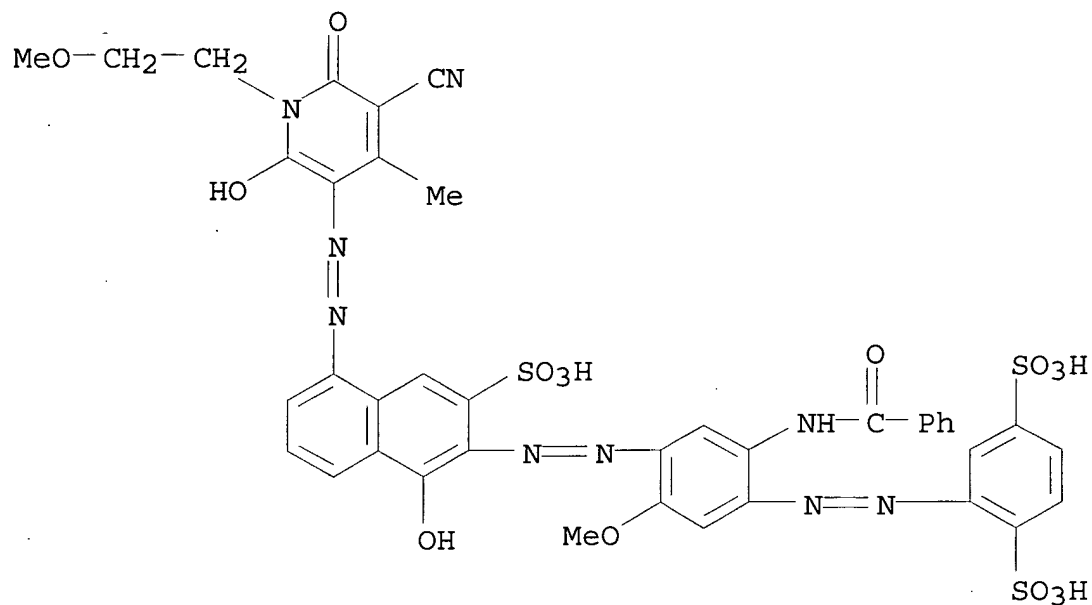
CMF C3 H9 N



RN 160004-74-0 HCA

CN 1,4-Benzenedisulfonic acid, 2-[[2-(benzoylamino)-4-[[5-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-methoxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-5-methoxyphenyl]azo]-, trilithium salt (9CI) (CA INDEX NAME)

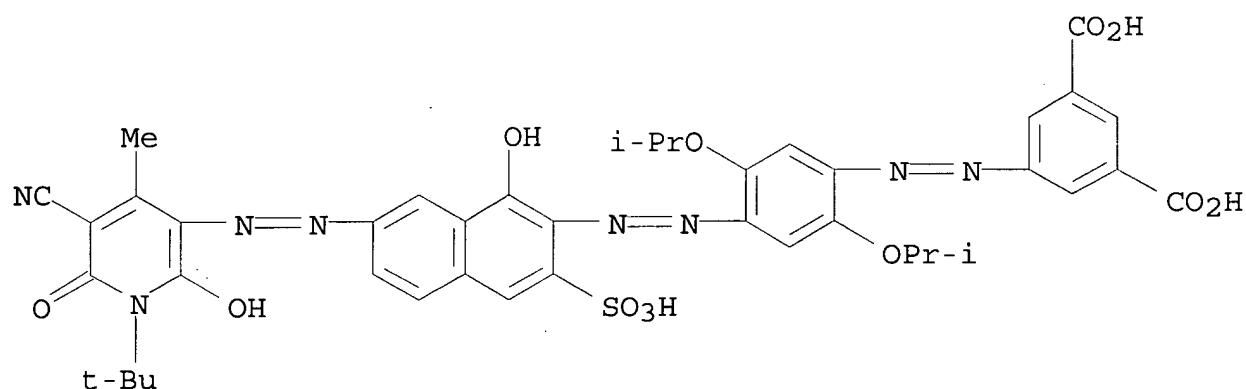
PAGE 1-A



PAGE 2-A

● 3 Li

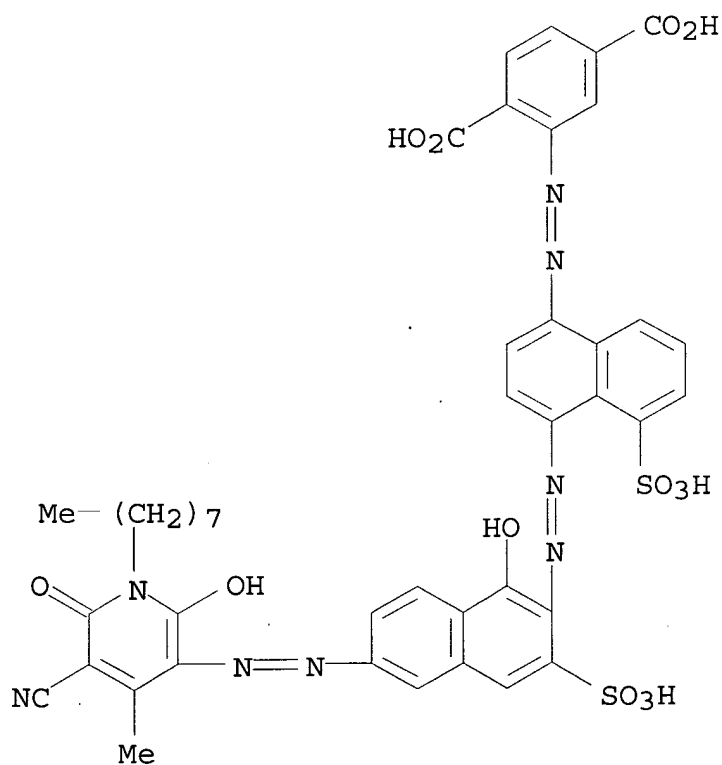
RN 160004-75-1 HCA  
 CN 1,3-Benzenedicarboxylic acid, 5-[[4-[[7-[[5-cyano-1-(1,1-dimethylethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-2,5-bis(1-methylethoxy)phenyl]azo]-, triammonium salt (9CI) (CA INDEX NAME)



● 3 NH<sub>3</sub>

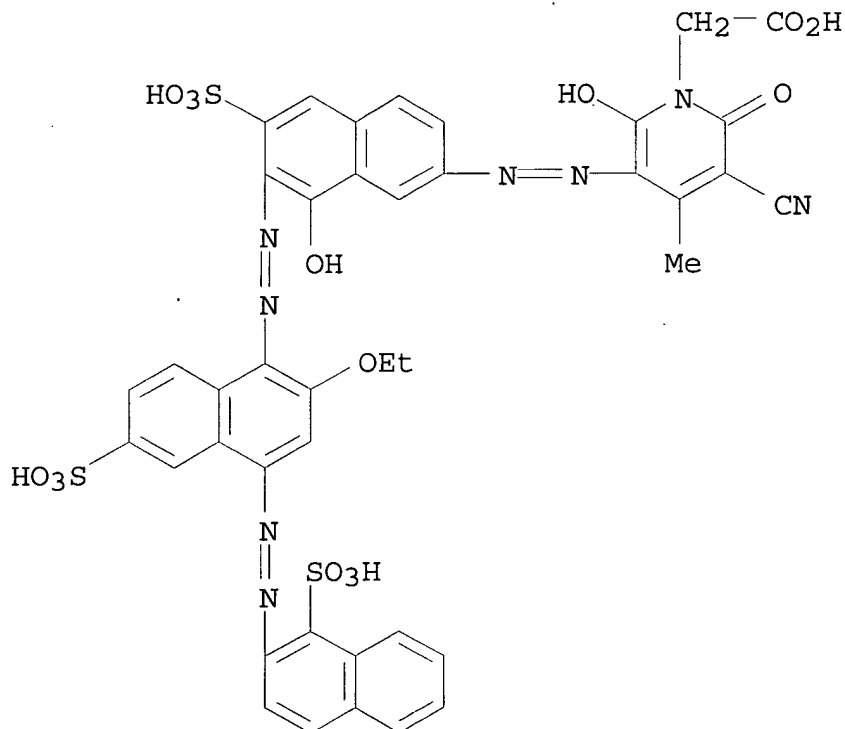
RN 160004-76-2 HCA

CN 1,4-Benzenedicarboxylic acid, 2-[[[4-[[[6-[(5-cyano-1,6-dihydro-2-hydroxy-4-methyl-1-octyl-6-oxo-3-pyridinyl)azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]-5-sulfo-1-naphthalenyl]azo]-, tetraammonium salt (9CI) (CA INDEX NAME)



● 4 NH<sub>3</sub>

PAGE 1-A

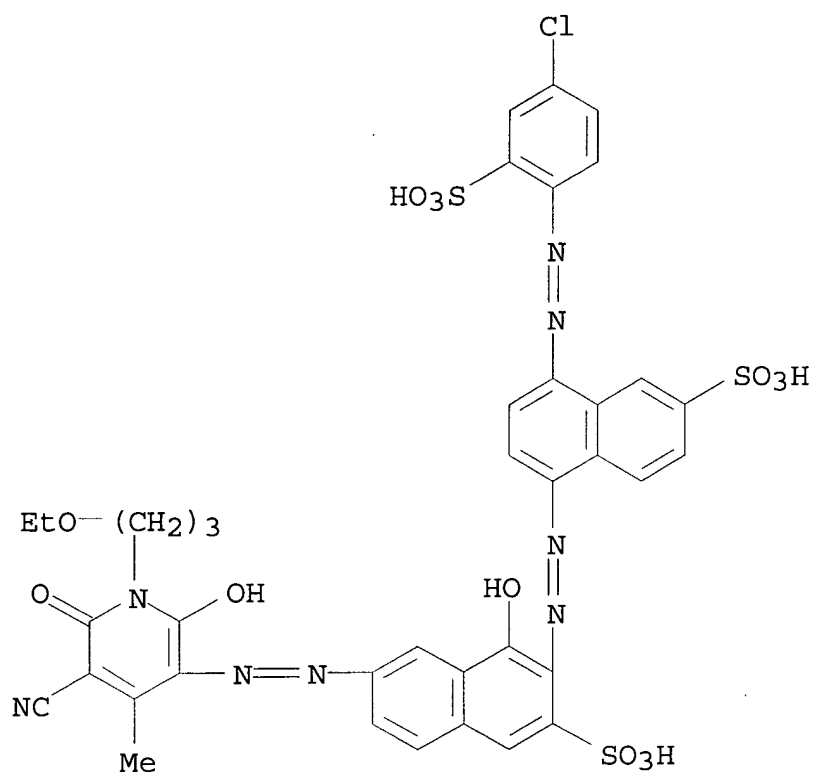


PAGE 2-A

●<sub>4</sub> Li

CM 1

CRN 160004-78-4  
CMF C38 H31 Cl N8 O13 S3

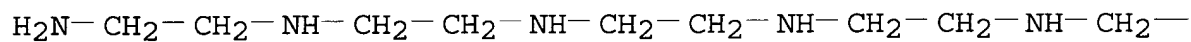


CM 2

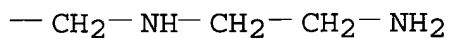
CRN 4403-32-1

CMF C12 H33 N7

PAGE 1-A



PAGE 1-B



IC ICM C09D011-00

ICS C09D011-00

CC 42-12 (Coatings, Inks, and Related Products)

ST stability **ink** trisazo dye; jet printing **ink**  
trisazo dye; light resistance **ink** trisazo dye;  
**water** resistance **ink** trisazo dye

IT Dyes, azo

(trisazo; in stable black **ink** for jet printing with

light and water resistance)

IT **Inks**  
 (jet-printing, stable black **inks** contg. trisazo dyes with light and water resistance)

IT 160004-66-0 160004-67-1 160004-68-2  
 160004-69-3 160004-70-6 160004-72-8  
 160004-73-9 160004-74-0 160004-75-1  
 160004-76-2 160004-77-3 160004-79-5  
 (in stable black **ink** for jet printing with light and water resistance)

IT 56-81-5, Glycerin, uses 67-63-0, 2-Propanol, uses 102-71-6, Triethanolamine, uses 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses 112-34-5, Diethylene glycol monobutyl ether 872-50-4, N-Methylpyrrolidone, uses (solvents; in stable jet-printing **inks** contg. trisazo dyes)

L27 ANSWER 10 OF 19 HCA COPYRIGHT 2002 ACS  
 122:83944 Storage-stable black recording fluids. Sano, Hideo; Murata, Jukichi; Yoneyama, Tomio (Mitsubishi Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 06192602 A2 19940712 Heisei, 11 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1992-344707 19921224.

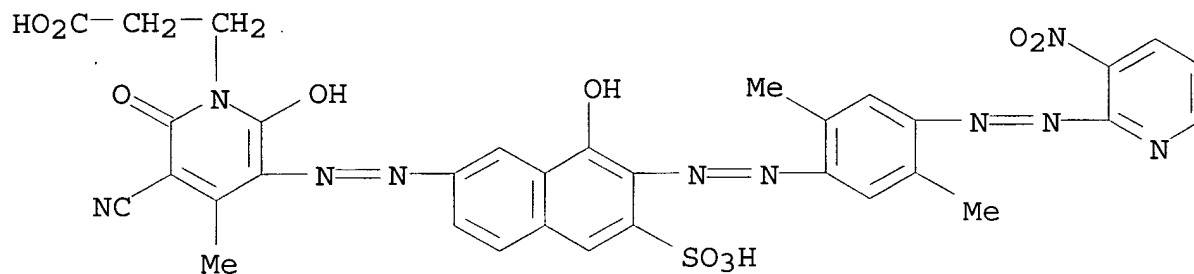
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The title fluids, useful for jet printing and giving light- and water-resistant images, contain aq. media and .gtoreq.1 trisazo dye I [A = (substituted) phenylene or naphthylene; B = Ph, pyridyl, or pyrimidinyl substituted by amino, sulfo, carboxy, alkyl, alkoxy, OH, hydroxyalkyl, and/or other groups; R1-3 = H, alkyl, nitro, amino, acylamino, halo; M = alkali metal, NH4, org. amine; n = 0-1]. An **aq. ink** contg. II 2.5, diethylene glycol 20, N-methylpyrrolidone 5, triethanolamine 3, and Me2CHOH 3% showed good storage stability at 5.degree. and 60.degree..

IT 159757-18-3 159757-31-0  
 (pigments; in storage-stable jet-printing **inks** with light and water resistance)

RN 159757-18-3 HCA  
 CN 1(2H)-Pyridinepropanoic acid, 3-cyano-5-[[7-[[2,5-dimethyl-4-[(3-nitro-2-pyridinyl)azo]phenyl]azo]-8-hydroxy-6-sulfo-2-naphthalenyl]azo]-6-hydroxy-4-methyl-2-oxo-, diammonium salt (9CI)  
 (CA INDEX NAME)

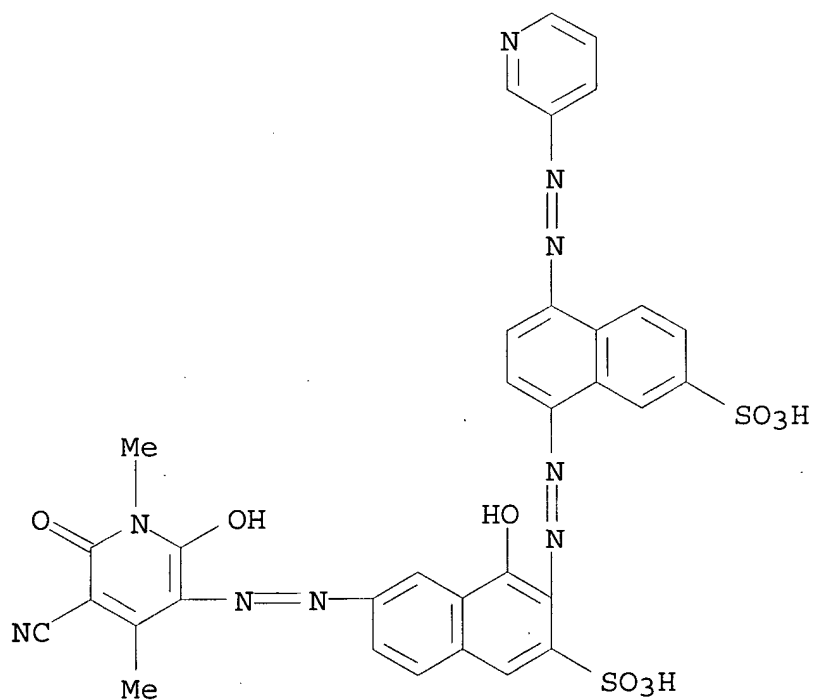


● 2 NH<sub>3</sub>

RN 159757-31-0 HCA

CN 2-Naphthalenesulfonic acid, 6-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]-4-hydroxy-3-[[4-(3-pyridinylazo)-7-sulfo-1-naphthalenyl]azo]-, dilithium salt (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

## ●2 Li

IC ICM C09D011-00  
ICS C09D011-02

CC 42-12 (Coatings, Inks, and Related Products)

ST trisazo dye **ink** storage stability; jet printing  
**ink** trisazo dye; light resistance **ink** trisazo dye;  
**water** resistance **ink** trisazo dye

IT Dyes, azo  
(trisazo; in storage-stable jet-printing **inks** with  
light and water resistance)

IT **Inks**  
(jet-printing, storage-stable **inks** contg. trisazo dyes  
with light and water resistance)

IT 159757-15-0 159757-16-1 159757-17-2 **159757-18-3**  
159757-20-7 159757-21-8 159757-22-9 159757-23-0 159757-24-1  
159757-25-2 159757-26-3 159757-28-5 159757-29-6 159757-30-9  
**159757-31-0**  
(pigments; in storage-stable jet-printing **inks** with  
light and water resistance)

IT 56-81-5, Glycerin, uses 67-63-0, 2-Propanol, uses 102-71-6,  
Triethanolamine, uses 107-21-1, Ethylene glycol, uses 111-46-6,  
Diethylene glycol, uses 112-34-5, Diethylene glycol monobutyl  
ether 872-50-4, N-Methylpyrrolidone, uses  
(solvents; in storage-stable jet-printing **inks** contg.  
trisazo dyes)

L27 ANSWER 11 OF 19 HCA COPYRIGHT 2002 ACS

121:289764 Sublimation type color thermal transfer recording sheet.  
Mori, Masukazu; Sakurai, Osamu (Kondo Toshio, Japan). Jpn. Kokai  
Tokkyo Koho JP 06092040 A2 19940405 Heisei, 8 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1992-241962 19920910.

AB In the title thermal transfer recording sheet comprising cyan,  
magenta, and **yellow ink** layers and an optional  
black **ink** layer on its support, the sublimable dyes used  
in the above **ink** layers are based on good light-resistant  
dyes, and are prepd. by using .gtoreq.2 light-resistant dyes in a  
single or mixt. solvent. Transferred images produced by using the  
above recording sheet show good light resistance and storageability.

IT **143067-35-0**, C.I. **Disperse yellow** 231  
(sublimation type thermal transfer recording sheet from)

RN 143067-35-0 HCA

IC ICM B41M005-38

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 42

IT 128-80-3, C.I. Solvent green 3 2944-28-7, C.I. **Disperse**  
red 22 3179-90-6, C.I. **Disperse** blue 7 6408-50-0, C.I.



Solvent blue 63 6408-72-6, C.I. **Disperse** violet 31  
 12217-80-0, C.I. **Disperse** blue 60 12222-85-4, C.I.  
**Disperse** blue 87 12223-67-5, C.I. **Disperse** red  
 132 14233-37-5, C.I. Solvent blue 36 17354-14-2, C.I. Solvent  
 blue 35 34231-26-0, C.I. **Disperse** red 91 59763-30-3,  
 C.I. **Disperse** red 146 59787-78-9, C.I. **Disperse**  
 red 53 61951-89-1, C.I. Solvent violet 36 70956-27-3, C.I.  
 Solvent violet 31 71819-69-7, C.I. **Disperse** red 155  
 71832-19-4, C.I. Solvent red 168 75216-43-2, C.I. **Disperse**  
**yellow** 160 82230-09-9, C.I. **Disperse** blue 198  
 88650-96-8, C.I. **Disperse** orange 119 88651-03-0, C.I.  
**Disperse yellow** 224 106768-99-4, C.I. Solvent  
**yellow** 163 **143067-35-0**, C.I. **Disperse**  
**yellow** 231 159131-66-5, C.I. **Disperse** Red 207  
 159131-67-6, C.I. Solvent Blue 331 159131-68-7, C.I. Solvent Red  
 60

(sublimation type thermal transfer recording sheet from)

L27 ANSWER 12 OF 19 HCA COPYRIGHT 2002 ACS

121:267922 Sublimation type color thermal transfer recording sheet.  
 Mori, Masukazu; Sakurai, Osamu (Kondo Toshio, Japan): Jpn. Kokai  
 Tokkyo Koho JP 06092039 A2 19940405 Heisei, 7 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1992-241961 19920910.

AB In the title thermal transfer recording sheet comprising cyan,  
 magenta, **yellow**, and black **ink** layers on its  
 support, the sublimable dyes used in the **yellow** and  
 magenta **ink** layers have an anthraquinone skeleton, the  
**yellow ink** layer utilizes sublimable dyes having  
 anthraquinone, quinonephthalone, acrido, nitro, pyridone, or  
 pyrazolone skeletons, and the black **ink** is a mixt. of the  
 3 primary colors. Images produced by using the above recording  
 sheet shows good light resistance.

IT **143067-35-0**, C.I. **Disperse yellow** 231

(sublimation type thermal transfer recording sheet from)

RN **143067-35-0** HCA

IC ICM B41M005-38

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 42

IT 128-80-3, C.I. Solvent green 3 2944-28-7, C.I. **Disperse**  
 red 22 3179-90-6, C.I. **Disperse** blue 7 6408-72-6, C.I.  
**Disperse** violet 31 12217-80-0, C.I. **Disperse**  
 blue 60 12222-85-4, C.I. **Disperse** blue 87 14233-37-5,  
 C.I. Solvent blue 36 17354-14-2, C.I. Solvent blue 35  
 59787-78-9, C.I. **Disperse** red 53 61951-89-1, C.I.  
 Solvent violet 36 71832-19-4, C.I. Solvent red 168 75216-43-2,  
 C.I. **Disperse yellow** 160 82230-09-9, C.I.  
**Disperse** blue 198 88650-96-8, C.I. **Disperse**  
 orange 119 88651-03-0, C.I. **Disperse yellow**  
 224 106768-99-4, C.I. Solvent **yellow** 163  
**143067-35-0**, C.I. **Disperse yellow** 231

(sublimation type thermal transfer recording sheet from)

L27 ANSWER 13 OF 19 HCA COPYRIGHT 2002 ACS

119:228200 Thermal transfer sheets and thermal transfer image formation.  
Sato, Hideaki; Eguchi, Hiroshi (Dainippon Printing Co Ltd, Japan).  
Jpn. Kokai Tokkyo Koho JP 05069680 A2 19930323 Heisei, 12 pp.  
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-68216 19920326.  
PRIORITY: JP 1991-84431 19910326; JP 1991-84433 19910326.

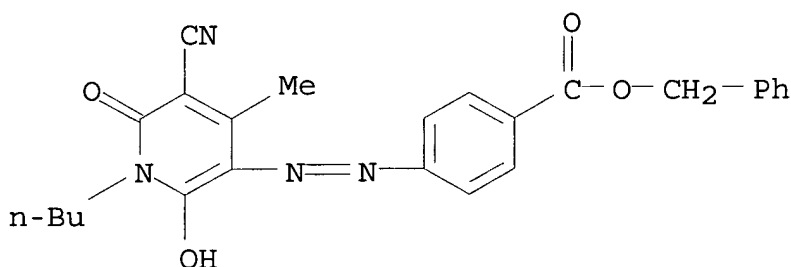
AB The title sheets providing excellent half tone reprodn. without color variation by gradation comprise a film support and **yellow**, magenta and cyan dye layers contg. dyes and binders, wherein the dye layer of one shade may contain .gtoreq.2 layers contg. different dyes of the same shade or contain .gtoreq.2 different dyes of the same shade, and the shadow and highlight parts are printed by different dye layers.

IT 75199-13-2

(dye, in **ink** layers in thermal-transfer printer ribbons with good half tone reprodn.)

RN 75199-13-2 HCA

CN Benzoic acid, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, phenylmethyl ester (9CI) (CA INDEX NAME)



IC ICM B41M005-38

CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74

IT Dyes

(in **ink** layers in thermal-transfer printer ribbons with good half tone reprodn.)

IT Vinyl acetal polymers

(butyrals, in **ink** layers in thermal-transfer printer ribbons with good half tone reprodn.)

IT 6368-72-5, C.I. Solvent Red 19 6408-50-0, C.I. Solvent Blue 63  
6408-72-6, C.I. **Disperse** Violet 26 14233-37-5, C.I.  
Solvent Blue 36 16889-10-4, C.I. **Disperse** Red 73  
17418-58-5, MS Red G 74239-96-6, Foron Brilliant Blue SR  
75199-13-2 76633-13-1, C.I. **Disperse**  
**Yellow** 141 80748-21-6, C.I. **Disperse**  
**Yellow** 201 151126-75-9, Baymicron SN 2670 151126-94-2,  
C.I. **Disperse** Orange 149

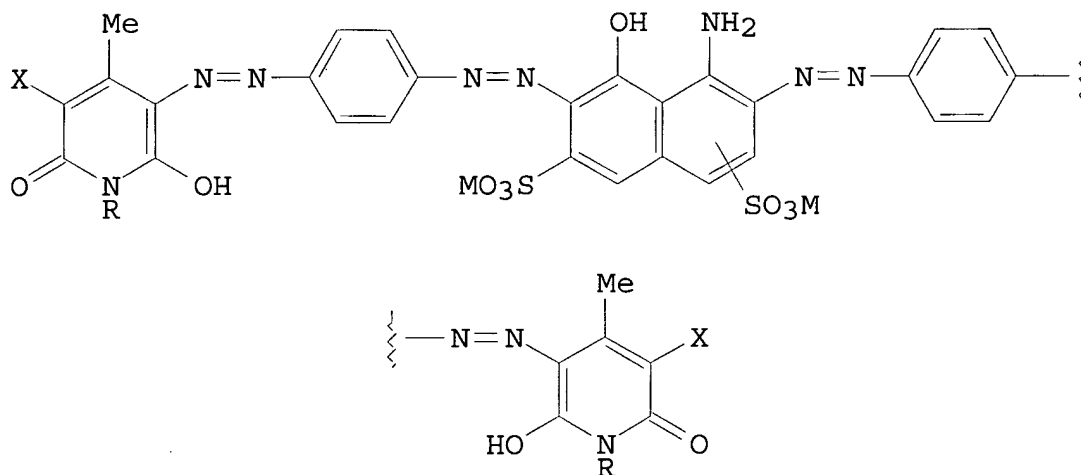
(dye, in **ink** layers in thermal-transfer printer ribbons with good half tone reprodn.)

L27 ANSWER 14 OF 19 HCA COPYRIGHT 2002 ACS

112:79687 Jet-printing **inks** containing trisazo dyes.

Takimoto, Hiroshi; Yoneyama, Tomio; Sano, Hideo (Mitsubishi Kasei Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01197578 A2 19890809 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-22299 19880202.

GI



I

AB Light- and water-resistant, storage-stable, greenish black title **inks** contain a **water**-based medium and .gtoreq.1 dye I (R = H, alkyl, hydroxyalkyl; X = CN, CONH2, CO2M; M = alkali metal, NH4, amine). An **ink** contg. ethylene glycol monoallyl ether 25, ethylene glycol 22, I (R = H; X = CN; M = Na) 5, and H2O 48% gave light- and water-resistant prints on electrophotog. paper.

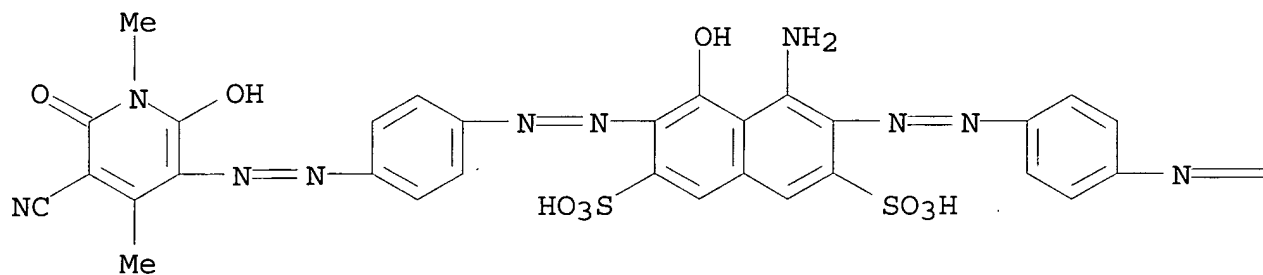
IT 125339-66-4P 125339-67-5P 125339-71-1P  
125339-72-2P

(prepn. and use in jet-printing **inks**)

RN 125339-66-4 HCA

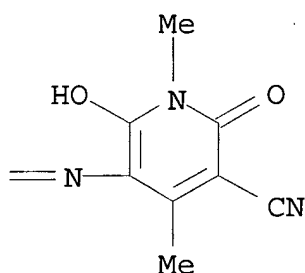
CN 2,7-Naphthalenedisulfonic acid, 4-amino-3,6-bis[[4-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]phenyl]azo]-5-hydroxy-, dilithium salt (9CI) (CA INDEX NAME)

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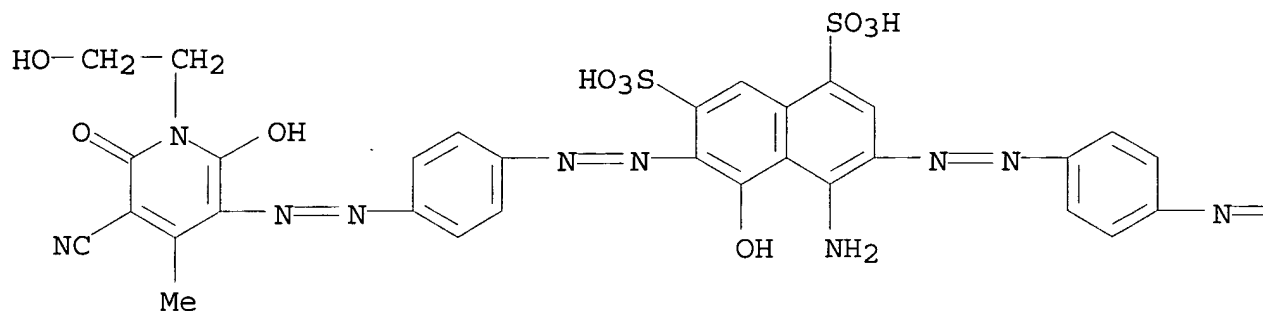
●2 Li

PAGE 1-B

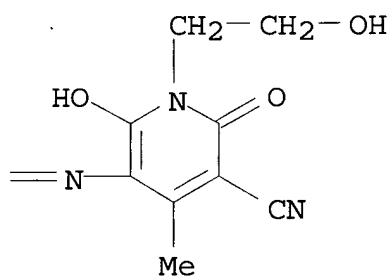


RN 125339-67-5 HCA  
 CN 1,7-Naphthalenedisulfonic acid, 4-amino-3,6-bis[[4-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]phenyl]azo]-5-hydroxy-, diammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 NH<sub>3</sub>

PAGE 1-B



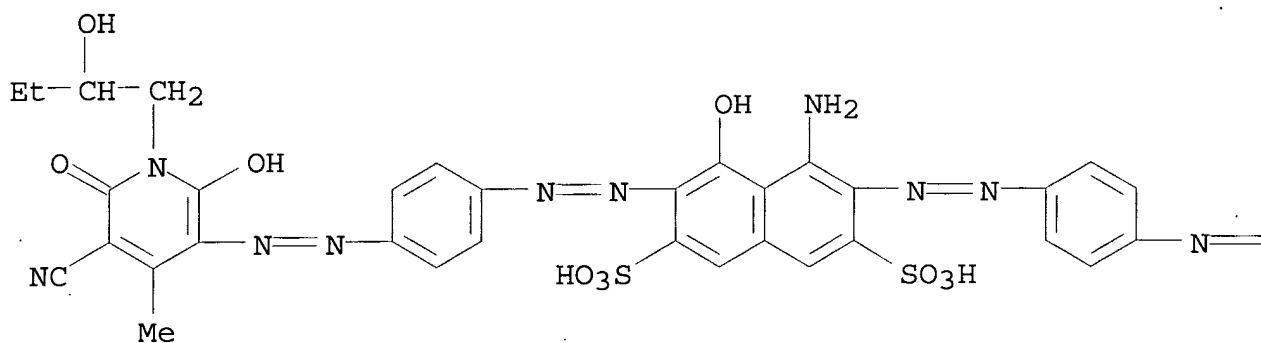
RN 125339-71-1 HCA  
 CN 2,7-Naphthalenedisulfonic acid, 4-amino-3,6-bis[[4-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxybutyl)-4-methyl-6-oxo-3-pyridinyl]azo]phenyl]azo]-5-hydroxy-, compd. with 2,2'-iminobis[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

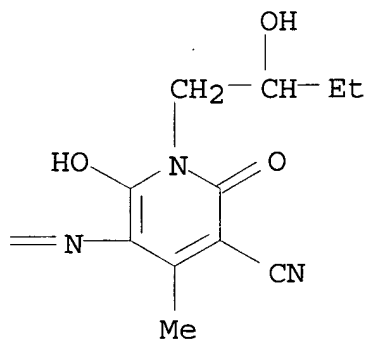
CRN 125339-70-0

CMF C44 H41 N13 O13 S2

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CM 2

CRN 111-42-2

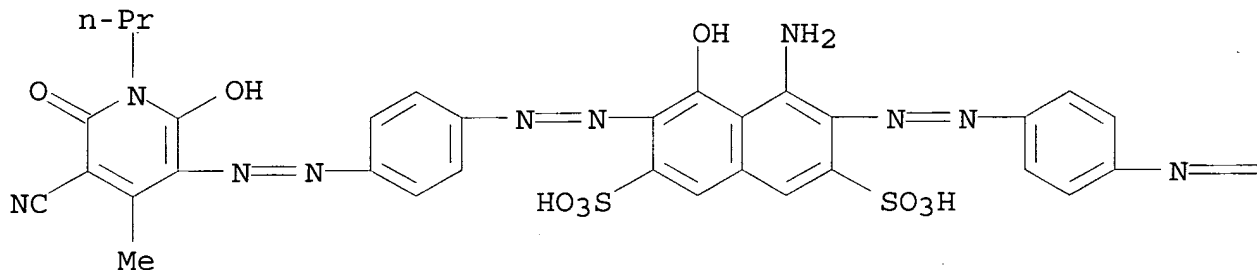
CMF C4 H11 N O2



RN 125339-72-2 HCA

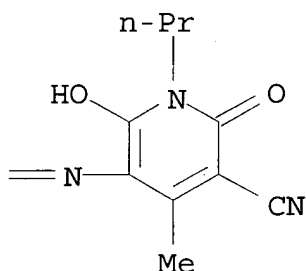
CN 2,7-Naphthalenedisulfonic acid, 4-amino-3,6-bis[[4-[(5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-1-propyl-3-pyridinyl)azo]phenyl]azo]-5-hydroxy-, dilithium salt (9CI) (CA INDEX NAME)

PAGE 1-A



● 2 Li

PAGE 1-B

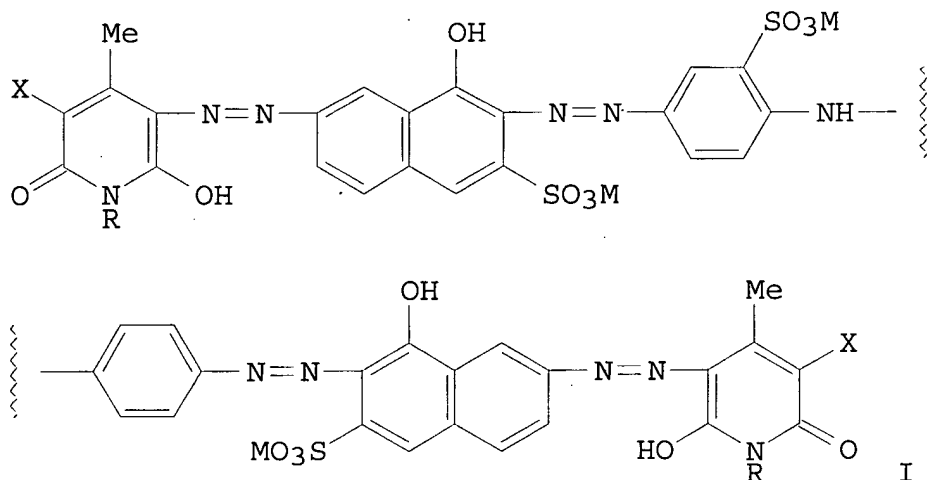


IC ICM C09D011-00  
ICS C09D011-00  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST jet printing **ink** trisazo dye; azo tris dye printing  
**ink**; storage stability **ink**; light resistance  
**ink**; **water** resistance **ink**; black  
greenish jet printing **ink**; electrophotog **ink**  
trisazo dye  
IT Dyes, azo  
(trisazo, in **aq.** jet-printing **inks**, greenish  
black)  
IT **Inks**  
(jet-printing, **water**-thinned, trisazo dyes for)  
IT 125339-65-3P 125339-66-4P 125339-67-5P  
125339-69-7P 125339-71-1P 125339-72-2P  
125362-94-9P  
(prepn. and use in jet-printing **inks**)

L27 ANSWER 15 OF 19 HCA COPYRIGHT 2002 ACS  
112:58476 Jet-printing **inks** containing tetrakisazo dyes.

Takimoto, Hiroshi; Yoneyama, Tomio; Sano, Hideo (Mitsubishi Kasei Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01197576 A2 19890809 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-21015 19880130.

GI



AB Light- and water-resistant, storage-stable, brownish black title **inks** comprise **water**-based media and .gtoreq.1 of I (R = H, lower alkyl, lower hydroxyalkyl; X = CN, CONH<sub>2</sub>, CO<sub>2</sub>M; M = alkali metal, NH<sub>4</sub>, amine). Thus, a compn. of ethylene glycol monoallyl ether 25, ethylene glycol 22, I (R = H, X = CN, M = Na) 3.5, and H<sub>2</sub>O 49.5% was storage-stable and produced light- and water-resistant prints.

IT 125091-86-3 125091-87-4 125091-91-0  
125091-92-1

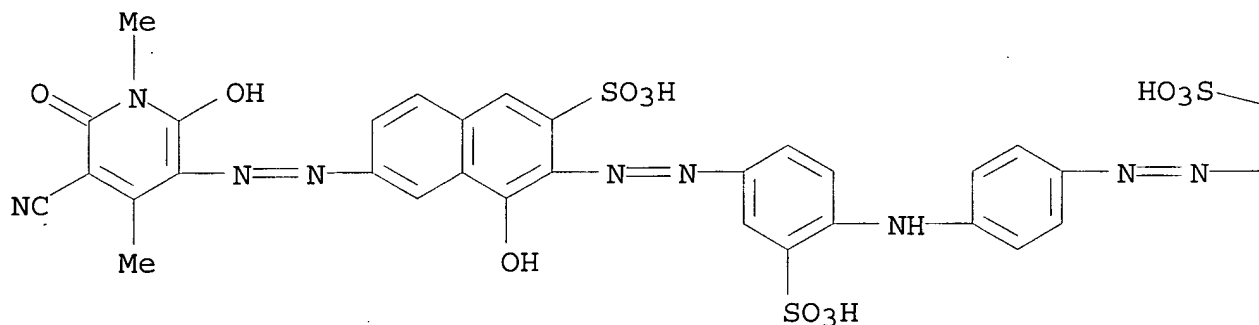
(**inks** contg., light- and water-resistant, storage-stable, water-thinned, brownish black, for jet-printing)

RN 125091-86-3 HCA

CN 2-Naphthalenesulfonic acid, 6-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]-3-[[4-[[4-[[7-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]phenyl]amino]-3-sulfophenyl]azo]-4-hydroxy-, dilithium monosodium salt (9CI) (CA INDEX NAME)



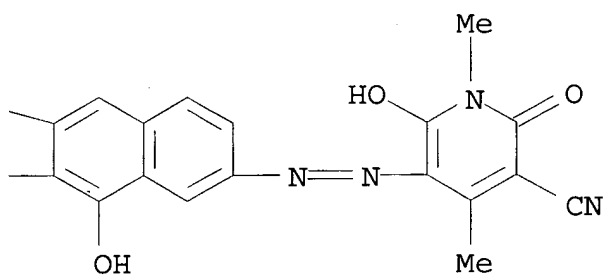
PAGE 1-A



● 2 Li

● Na

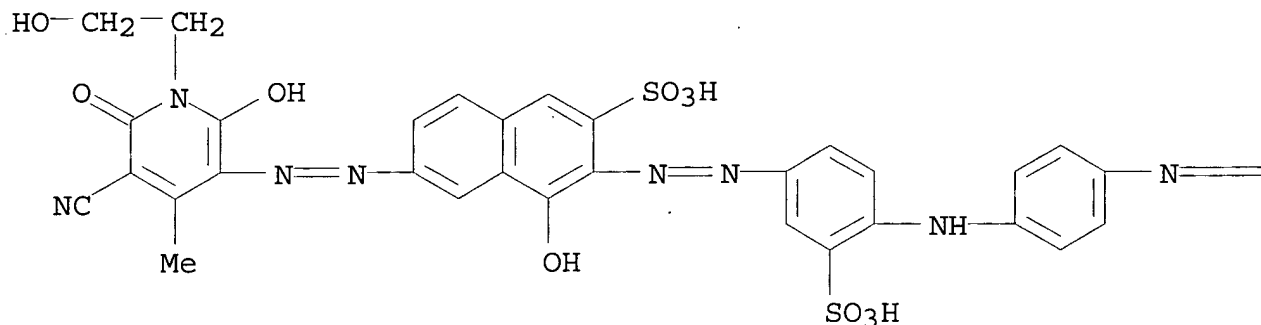
PAGE 1-B



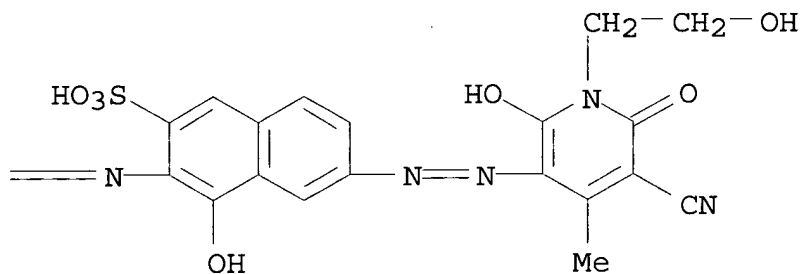
RN 125091-87-4 HCA

CN 2-Naphthalenesulfonic acid, 6-[[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-3-[[[4-[[[4-[[[7-[[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]phenyl]amino]-3-sulfophenyl]azo]-4-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A

● 3 NH<sub>3</sub>

PAGE 1-B



RN 125091-91-0 HCA

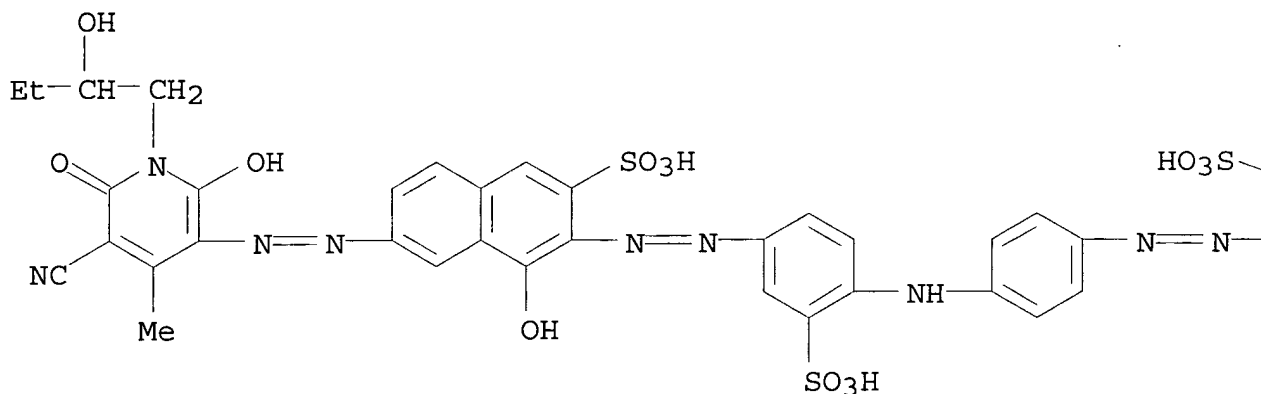
CN 2-Naphthalenesulfonic acid, 6-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxybutyl)-4-methyl-6-oxo-3-pyridinyl]azo]-3-[[4-[[4-[[7-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxybutyl)-4-methyl-6-oxo-3-pyridinyl]azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]phenyl]amino]-3-sulfophenyl]azo]-4-hydroxy-, compd. with 2,2'-iminobis[ethanol] (1:3) (9CI) (CA INDEX NAME)

CM 1

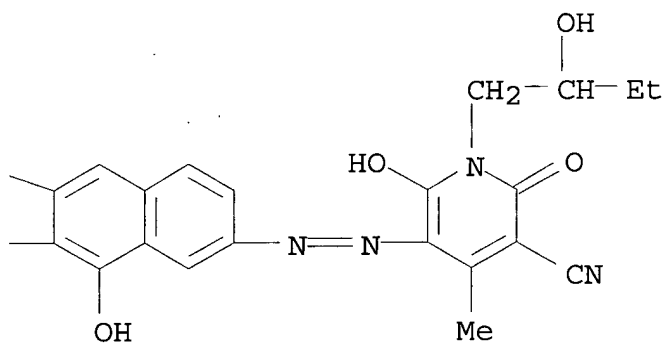
CRN 125091-90-9

CMF C54 H47 N13 O17 S3

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CM 2

CRN 111-42-2

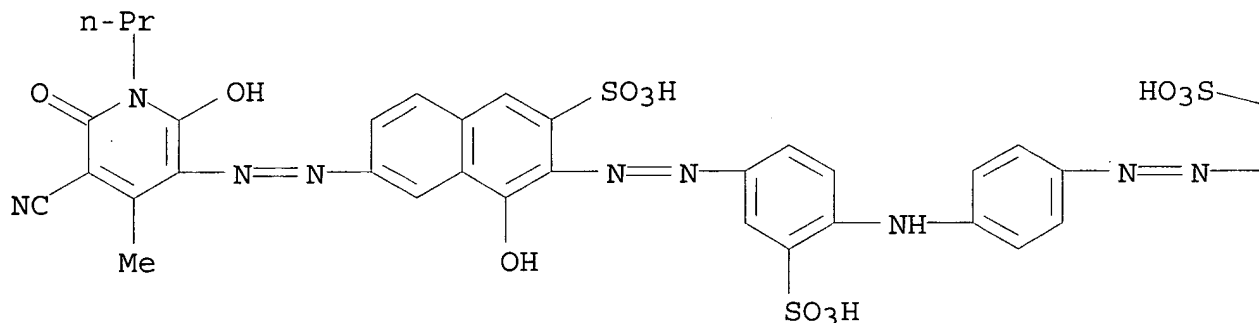
CMF C4 H11 N O2



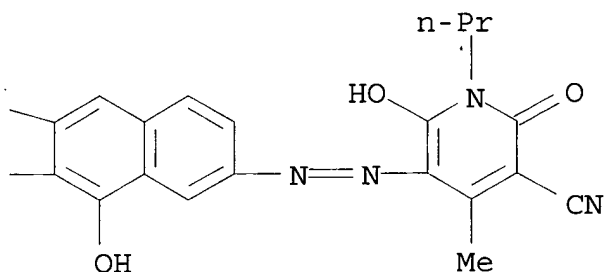
RN 125091-92-1 HCA

CN 2-Naphthalenesulfonic acid, 6-[(5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-1-propyl-3-pyridinyl)azo]-3-[[4-[[4-[[7-[(5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-1-propyl-3-pyridinyl)azo]-1-hydroxy-3-sulfo-2-naphthalenyl]azo]phenyl]amino]-3-sulfonylphenyl]azo]-4-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A

● 3 NH<sub>3</sub>

PAGE 1-B



IC ICM C09D011-00  
ICS C09D011-00  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST jet printing **ink** tetrakisazo dye; storage stability jet  
printing **ink**; light resistance jet printing **ink**;  
water resistance jet printing **ink**; black brownish jet  
printing **ink**  
IT Dyes, azo  
(tetrakis, brownish black, for water-thinned jet-printing  
**inks**)  
IT **Inks**  
(jet-printing, light- and water-resistant, storage-stable,  
water-thinned, brownish black, contg. tetrakisazo dyes)  
IT 125091-85-2 125091-86-3 125091-87-4  
125091-88-5 125091-89-6 125091-91-0 125091-92-1  
(**inks** contg., light- and water-resistant,  
storage-stable, water-thinned, brownish black, for jet-printing)

L27 ANSWER 16 OF 19 HCA COPYRIGHT 2002 ACS

106:215650 Liquid composition and method for **ink** jet printing.

Koike, Shoji; Iwata, Kazuo (Canon K. K. , Japan). Eur. Pat. Appl.

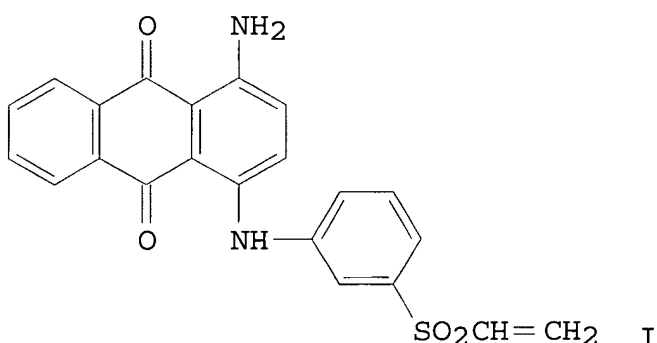
EP 202656 A2 19861126, 36 pp. DESIGNATED STATES: R: DE, FR, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1986-106852

19860520. PRIORITY: JP 1985-106985 19850521; JP 1985-106986

19850521; JP 1985-106987 19850521; JP 1985-106988 19850521; JP

1985-113293 19850528.

GI



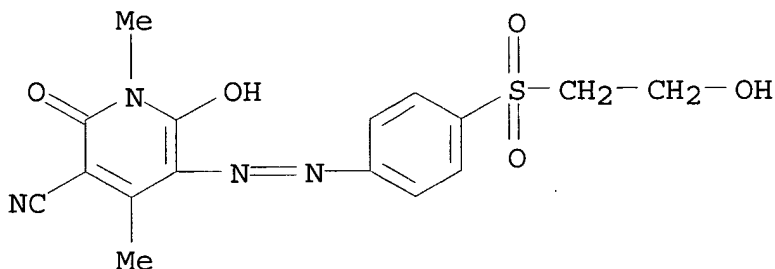
AB The title **ink** comprises 0.1-15% reactive disperse dye in aq. liq. medium that are jet-printed with color uniformity onto a cloth article. Thus, an **ink** contg. reactive dye I 5, anionic surfactant 4, ethylene glycol 15, diethylene glycol 13, and H2O 65, milled, adjusted to pH 4.7, and filtered was used to jet-print various woven fabrics and had surface tension 45 dyne/cm and polyvalent metal content 78 ppm.

IT 57114-52-0

(**ink** contg., for jet-printing fabrics)

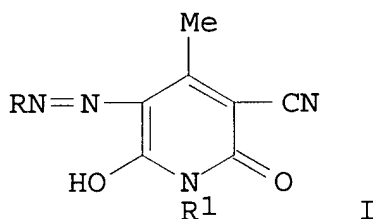
RN 57114-52-0 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-5-[[4-[(2-hydroxyethyl)sulfonyl]phenyl]azo]-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 ICS C09B067-24; D06P001-38; D06P005-00  
 CC 42-12 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 40  
 IT Dyes, reactive  
 (disperse, **inks** contg., for jet-printing fabrics)  
 IT Dyeing  
 (of fabrics, reactive disperse dye-contg. **ink** for)  
 IT **Inks**  
 (jet-printing, **water**-thinned, contg. reactive dispersed  
 dyes, fabrics)  
 IT 57114-48-4 **57114-52-0** 57159-67-8 72011-01-9  
 79641-34-2 91780-07-3 96308-78-0 108548-77-2 108548-78-3  
 108548-79-4 108548-80-7 108548-81-8 108548-82-9 108548-83-0  
 108548-84-1 108548-85-2 108548-86-3 108548-87-4  
 (**ink** contg., for jet-printing fabrics)  
 L27 ANSWER 17 OF 19 HCA COPYRIGHT 2002 ACS  
 103:62647 Pyridinone azo dye for thermal transfer recording. (Mitsubishi  
 Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
 60027594 A2 19850212 Showa, 7 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1983-137020 19830727.

GI



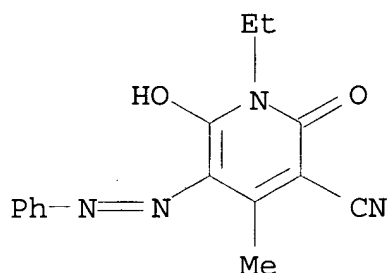
AB The claimed dye has the general formula I (R = Ph that may be  
 substituted by lower alkyl, alkoxy, F3C, nitro, halo; R1 = lower  
 alkyl, lower alkoxyalkyl, allyl, H). The dye has good sublimability  
 and stability at the temp. of the thermal head and has good  
**yellow** hue and high mol. extinction. It is esp. suited for  
 use in the prepn. of hard copies from electronic displays. Thus, an  
**ink** compn. was prepd. by **dispersing** the dye I (R =  
 Ph; R1 = Me) 2, Et cellulose 8, and iso-PrOH 90 g and coated on  
 condenser paper. The obtained transfer sheet was laid on a receptor  
 sheet, which was plain paper coated with a mixt. contg. a satd.  
 polyester (Vylonal MD-1200) and bicarbonate, and thermally printed  
 to obtain **yellow** images of d. 1.2 under normal conditions.  
 Test showed good colorfastness.  
 IT 61058-74-0 75511-85-2 77889-91-9  
 92570-36-0 97515-74-7 97515-75-8  
 97515-76-9 97515-77-0 97515-78-1  
 97515-79-2 97515-80-5 97515-81-6

97515-82-7 97515-83-8 97515-84-9  
 97515-85-0 97515-86-1 97515-87-2  
 97515-88-3 97515-89-4 97515-90-7  
 97546-85-5

(thermal-transfer recording material contg., for hard copies from  
 electronic displays)

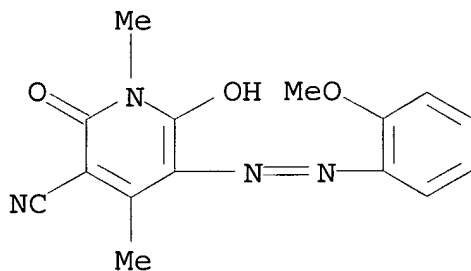
RN 61058-74-0 HCA

CN 3-Pyridinecarbonitrile, 1-ethyl-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-  
 5-(phenylazo)- (9CI) (CA INDEX NAME)



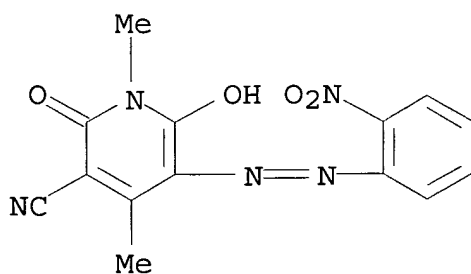
RN 75511-85-2 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-5-[(2-methoxyphenyl)azo]-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



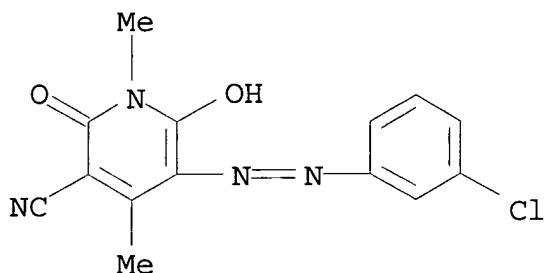
RN 77889-91-9 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-5-[(2-nitrophenyl)azo]-2-oxo- (9CI) (CA INDEX NAME)



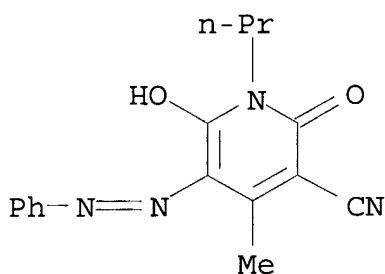
RN 92570-36-0 HCA

CN 3-Pyridinecarbonitrile, 5-[(3-chlorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



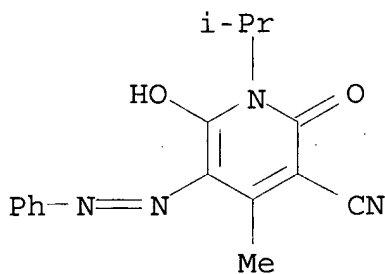
RN 97515-74-7 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-4-methyl-2-oxo-5-(phenylazo)-1-propyl- (9CI) (CA INDEX NAME)



RN 97515-75-8 HCA

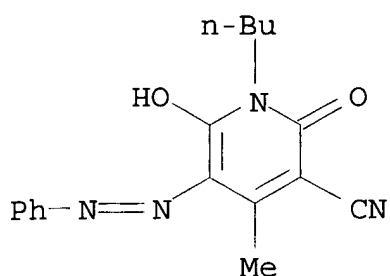
CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-4-methyl-1-(1-methylethyl)-2-oxo-5-(phenylazo)- (9CI) (CA INDEX NAME)



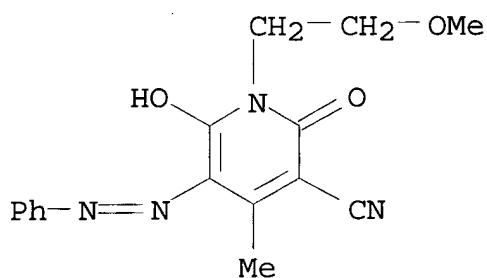
RN 97515-76-9 HCA

CN 3-Pyridinecarbonitrile, 1-butyl-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-5-(phenylazo)- (9CI) (CA INDEX NAME)

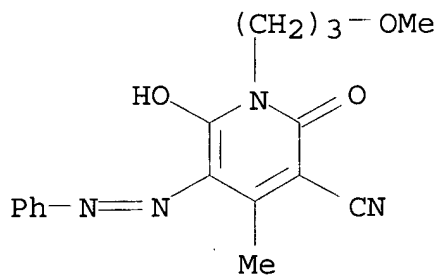




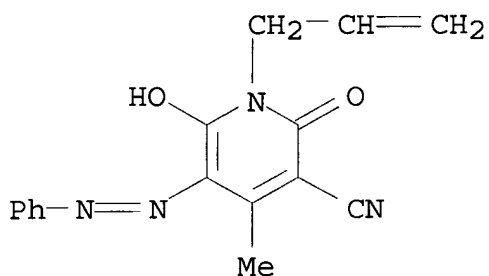
RN 97515-77-0 HCA  
 CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1-(2-methoxyethyl)-4-methyl-2-oxo-5-(phenylazo)- (9CI) (CA INDEX NAME)



RN 97515-78-1 HCA  
 CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1-(3-methoxypropyl)-4-methyl-2-oxo-5-(phenylazo)- (9CI) (CA INDEX NAME)

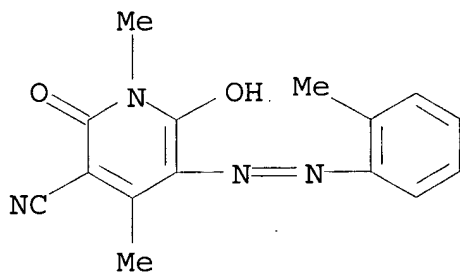


RN 97515-79-2 HCA  
 CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-4-methyl-2-oxo-5-(phenylazo)-1-(2-propenyl)- (9CI) (CA INDEX NAME)



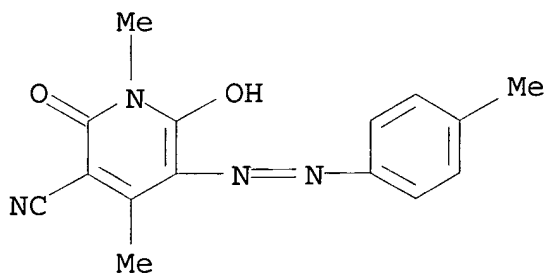
RN 97515-80-5 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-5-[(2-methylphenyl)azo]-2-oxo- (9CI) (CA INDEX NAME)



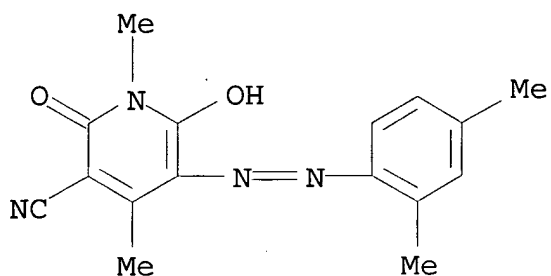
RN 97515-81-6 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-5-[(4-methylphenyl)azo]-2-oxo- (9CI) (CA INDEX NAME)



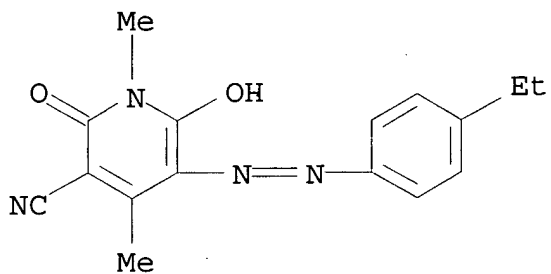
RN 97515-82-7 HCA

CN 3-Pyridinecarbonitrile, 5-[(2,4-dimethylphenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



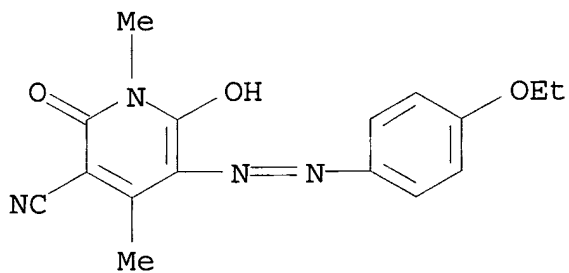
RN 97515-83-8 HCA

CN 3-Pyridinecarbonitrile, 5-[(4-ethylphenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



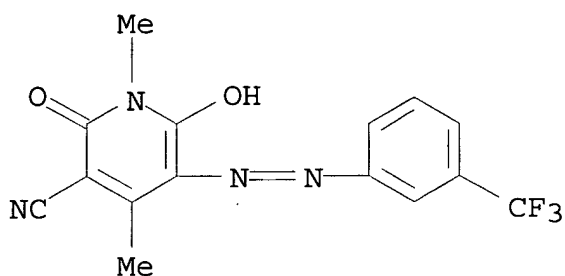
RN 97515-84-9 HCA

CN 3-Pyridinecarbonitrile, 5-[(4-ethoxyphenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



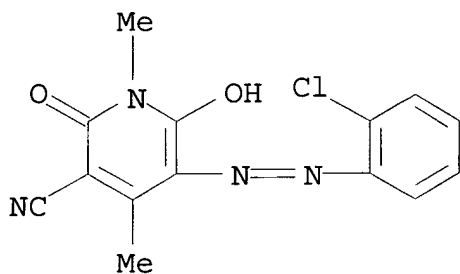
RN 97515-85-0 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo-5-[[3-(trifluoromethyl)phenyl]azo]- (9CI) (CA INDEX NAME)



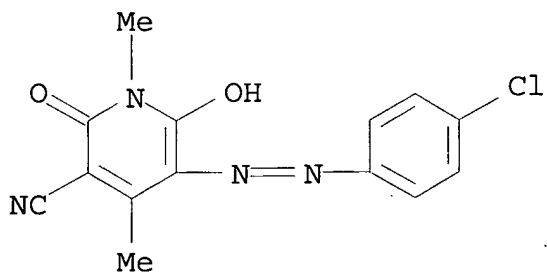
RN 97515-86-1 HCA

CN 3-Pyridinecarbonitrile, 5-[(2-chlorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



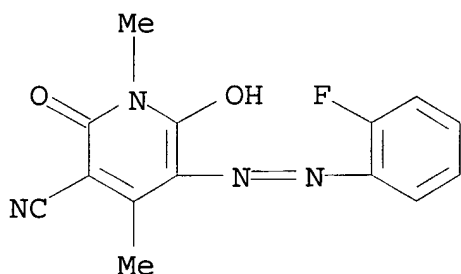
RN 97515-87-2 HCA

CN 3-Pyridinecarbonitrile, 5-[(4-chlorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)

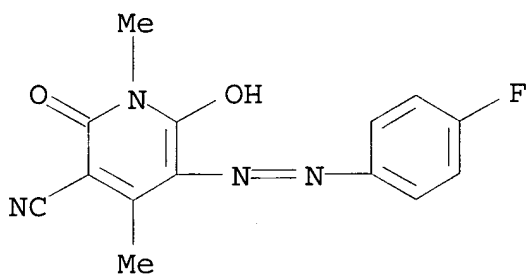


RN 97515-88-3 HCA

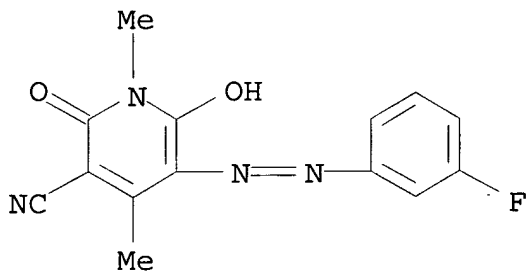
CN 3-Pyridinecarbonitrile, 5-[(2-fluorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



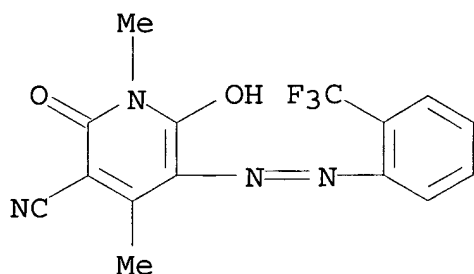
RN 97515-89-4 HCA  
 CN 3-Pyridinecarbonitrile, 5-[(4-fluorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)



RN 97515-90-7 HCA  
 CN 3-Pyridinecarbonitrile, 5-[(3-fluorophenyl)azo]-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo- (9CI) (CA INDEX NAME)

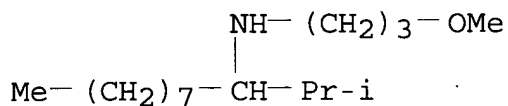


RN 97546-85-5 HCA  
 CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo-5-[[2-(trifluoromethyl)phenyl]azo]- (9CI) (CA INDEX NAME)



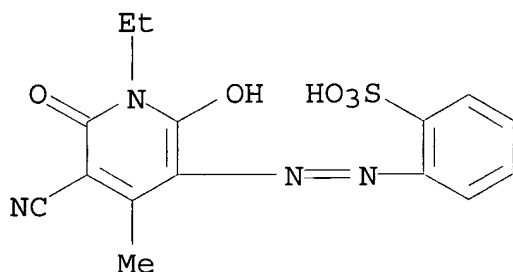
- IC ICM B41M005-26  
ICS C09B029-42
- CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT 61058-74-0 66487-18-1 75511-85-2  
77889-91-9 92570-36-0 97515-74-7  
97515-75-8 97515-76-9 97515-77-0  
97515-78-1 97515-79-2 97515-80-5  
97515-81-6 97515-82-7 97515-83-8  
97515-84-9 97515-85-0 97515-86-1  
97515-87-2 97515-88-3 97515-89-4  
97515-90-7 97546-85-5  
(thermal-transfer recording material contg., for hard copies from electronic displays)
- L27 ANSWER 18 OF 19 HCA COPYRIGHT 2002 ACS
- 98:55564 Amine salts of azo dyes of the pyridinone series. Lienhard, Paul; Hegar, Gert (Ciba-Geigy Corp. , USA). U.S. US 4359418 A 19821116, 11 pp. Cont. of U.S. Ser. No. 31,282, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1981-252526 19810409. PRIORITY: CH 1979-2327 19790312; US 1979-31282 19790418.
- AB Amine salts of 5-[(sulfoaryl)azo]-6-hydroxy-2-piperidinone derivs. are dyes with good soly. in org. solvents, useful in coloring solns. of film-forming polymers in **yellow** to orange shades. Thus, adding 19.5 g Primene 81R (C13-15 tert-alkylamine) in 200 mL water contg. 6 mL 85% HCO2H dropwise to a **suspension** of 38.4 g 3-cyano-1-ethyl-6-hydroxy-4-methyl-5-[(2-sulfophenyl)azo]-2-piperidinone in 1 L water at 40.degree., acidifying with HCO2H, and stirring several hours at 40-45.degree. gave 53 g of **yellow** powder very readily sol. in lower alcs. and ketones.
- IT 73280-83-8 76313-40-1D, amine salts  
84306-61-6D, amine salts 84306-62-7D, amine salts  
84306-64-9 84306-67-2  
(dyes, solvent-sol.)
- RN 73280-83-8 HCA
- CN Benzenesulfonic acid, 2-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, compd. with N-(3-methoxypropyl)-2-methyl-3-undecanamine (1:1) (9CI) (CA INDEX NAME)

CRN 73280-82-7  
CMF C16 H35 N O

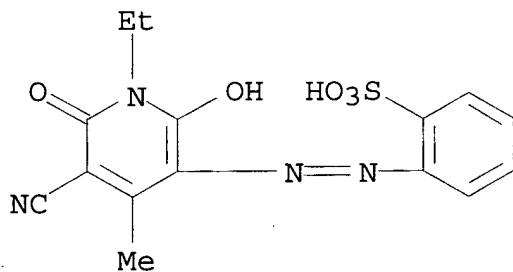


CM 2

CRN 57771-20-7  
CMF C15 H14 N4 O5 S

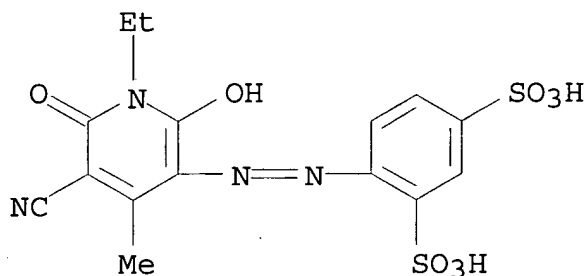


RN 76313-40-1 HCA  
CN Benzenesulfonic acid, 2-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

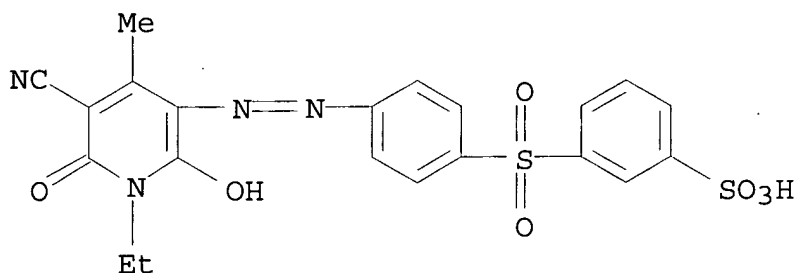
RN 84306-61-6 HCA  
CN 1,3-Benzenedisulfonic acid, 4-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

RN 84306-62-7 HCA

CN Benzenesulfonic acid, 3-[[4-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]phenyl]sulfonyl]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

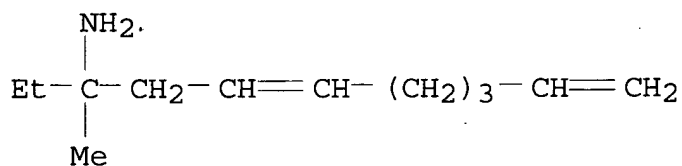
RN 84306-64-9 HCA

CN Benzenesulfonic acid, 2-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, compd. with 3-methyl-5,10-undecadien-3-amine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 84306-63-8

CMF C12 H23 N

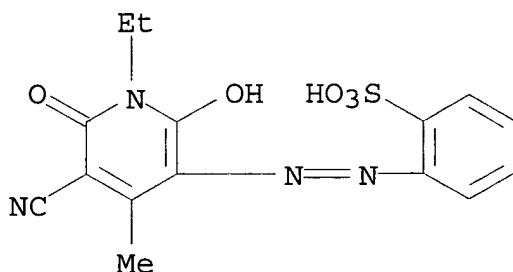




CM 2

CRN .57771-20-7

CMF C15 H14 N4 O5 S



RN 84306-67-2 HCA

IC C09B029-36; C07C085-20

NCL 260156000

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 37

ST azo dye solvent soluble; piperidinone deriv azo dye; amine salt azopiperidinone; polymer soln coloration dye; printing ink dye

IT **Inks**

(printing, azo dyes for, solvent-sol.)

IT 73280-83-8 76313-40-1D, amine salts

84306-61-6D, amine salts 84306-62-7D, amine salts

84306-64-9 84306-67-2

(dyes, solvent-sol.)

L27 ANSWER 19 OF 19 HCA COPYRIGHT 2002 ACS

78:45176 Azo dye-containing paints and printing **inks**. Young, Elliott (Imperial Chemical Industries Ltd.). Ger. Offen. DE 2216207 19721019, 19 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1972-2216207 19720404.

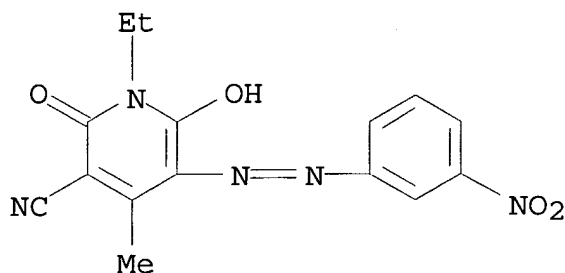
AB Paints and printing **inks** of fast **yellow** to blue shades contained a monoazo dye (I, R = CN or CONH<sub>2</sub>, R<sub>1</sub> = H or Et, NO<sub>2</sub> in ortho, meta, or para position), a film-forming binder, and optionally a solvent. Thus, a **dispersion** of 6 parts 1-ethyl-3-cyano-4-methyl-5-[(m-nitrophenyl)azo]-6-hydroxy-2-pyridone (I, R = CN, R<sub>1</sub> = Et, NO<sub>2</sub> in meta position) [37781-00-3], 10 parts Zn rosinate-Ca rosinate mixt. (A), and 16.2 parts aromatic-aliphatic hydrocarbon solvent mixt. (B) was milled and mixed with 33.8 parts B and 33.2 parts A to give a printing **ink** for bright **yellow** prints on paper.

IT 37781-00-3

(for coatings and printing **inks**)

RN 37781-00-3 HCA

CN 3-Pyridinecarbonitrile, 1-ethyl-1,2-dihydro-6-hydroxy-4-methyl-5-[(3-nitrophenyl)azo]-2-oxo- (9CI) (CA INDEX NAME)



IC C09B  
 CC 42-2 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 40  
 ST azo dye paint; printing **ink** azo dye  
 IT **Inks**  
 (printing, azo dye-contg.)  
 IT **37781-00-3** 40301-51-7 40301-52-8 40301-53-9  
 (for coatings and printing **inks**)

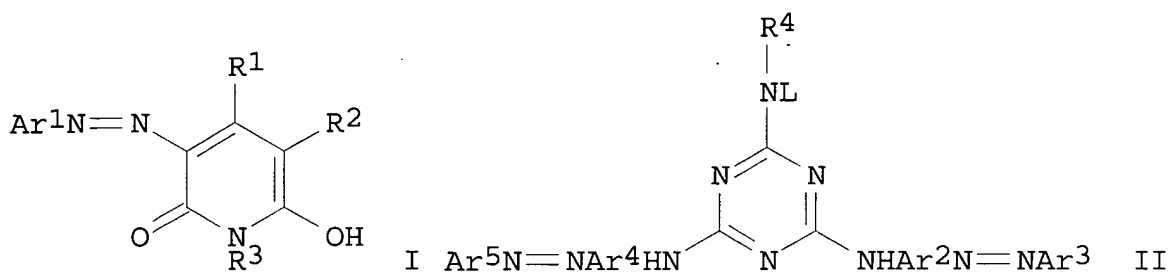
=> d 128 1-12 cbib abs hitstr hitind

L28 ANSWER 1 OF 12 HCA COPYRIGHT 2002 ACS

135:243734 Azo dye compositions and **jet-printing**

**inks** containing them. Ewing, Paul Nicholas; Holbrook, Mark;  
 Shawcross, Andrew Paul (Avecia Limited, UK). PCT Int. Appl. WO  
 2001066651 A1 20010913, 29 pp. DESIGNATED STATES: W: AE, AG, AL,  
 AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE,  
 DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,  
 JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
 MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
 TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,  
 MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK,  
 ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN,  
 TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-GB609  
 20010215. PRIORITY: GB 2000-5163 20000304.

GI

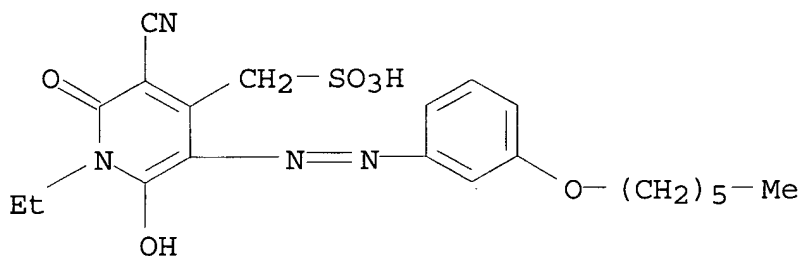


AB Compns. contg. a monoazo dye (I; A1 = arom. group; R1 = H, optionally substituted alkyl, alkenyl, alkynyl, pyridinium, aryl; R2 = H, optionally substituted alkyl, alkenyl, alkynyl, pyridinium, aryl, CO2H, CN, amino, carbamoyl; R3 = H, optionally substituted alkyl, alkenyl, alkynyl, aryl) and a disazo dye (II; A2-A5 = arom. group; L = H; L and R4 may form a heterocyclic ring with the N; R4 = H, optionally substituted alkyl, alkenyl, alkynyl, aryl) or their salts show better storage, processing, and print properties (when use in yellow **jet-printing inks**) than either I or II alone. Five examples of dye synthesis were given.

IT 359873-32-8P  
(yellow dye; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)

RN 359873-32-8 HCA

CN 4-Pyridinemethanesulfonic acid, 3-cyano-1-ethyl-5-[[3-(hexyloxy)phenyl]azo]-1,2-dihydro-6-hydroxy-2-oxo- (9CI) (CA INDEX NAME)



IC ICM C09B067-22

ICS C09D011-00

CC 41-1 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 42

ST azo dye prodn mixt yellow **jet printing ink**

IT **Inks**

(**jet-printing**; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)

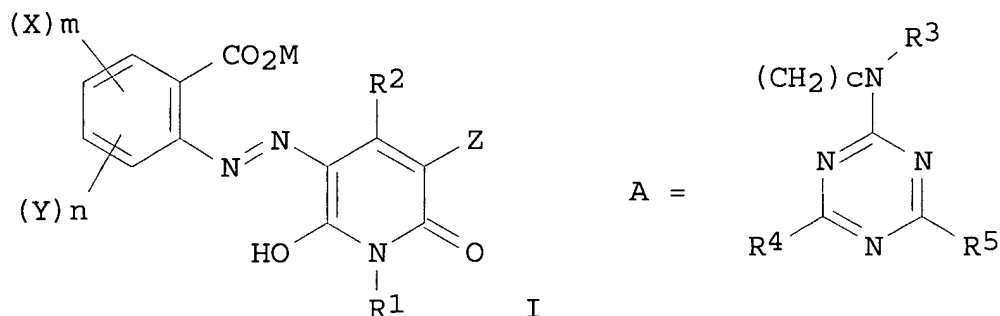
- IT Azo dyes  
(prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 240128-10-3P 359873-44-2P  
(coupling component intermediate; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 59-67-6, Nicotinic acid, reactions 79-07-2, Chloroacetamide  
105-56-6, Ethyl cyanoacetate 141-97-9, Ethyl acetoacetate  
638-07-3, Ethyl 4-chloroacetoacetate 4795-29-3,  
2-(Aminomethyl)tetrahydrofuran 7757-83-7, Sodium sulfite  
15029-36-4, N-Ethylcyanoacetamide  
(coupling component starting material; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 52048-19-8P  
(coupling component; azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 111-77-3, 2-(2-Methoxyethoxy)ethanol 122-04-3, 4-Nitrobenzoyl chloride  
(diazo component starting material; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 131-27-1, 2-Aminonaphthalene-4,8-disulfonic acid 3577-63-7  
55792-43-3, 3-(Hexyloxy)aniline  
(diazo component; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 108-44-1, reactions 108-77-0, Cyanuric chloride 111-26-2,  
Hexylamine 123-00-2, 4-(3-Aminopropyl)morpholine 82220-46-0,  
Aniline methanesulfonate  
(starting material; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 50925-42-3P, C.I. Direct Yellow 86  
(yellow dye; azo dyes and their mixts. for yellow **jet-printing inks**)
- IT 218925-11-2P **359873-32-8P** 359873-35-1P 359873-37-3P  
359873-39-5P  
(yellow dye; prodn. of azo dyes and their mixts. for yellow **jet-printing inks**)

L28 ANSWER 2 OF 12 HCA COPYRIGHT 2002 ACS

134:267727 Yellow pyridone azo dyes, inks containing them and their use in printing. Tallant, Neil Anthony; Millard, Christine (Avecia Limited, UK). PCT Int. Appl. WO 2001021714 A2 20010329, 42 pp.  
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN:

PIXXD2. APPLICATION: WO 2000-GB3550 20000918. PRIORITY: GB  
1999-22136 19990920.

GI

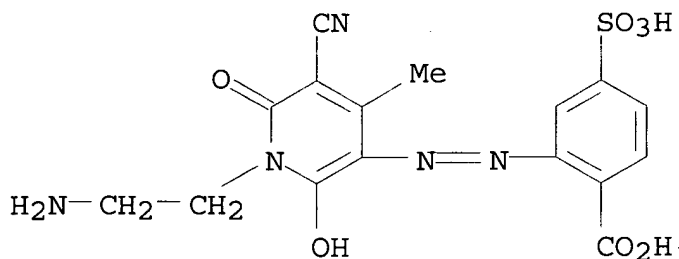


AB The dyes have the structure I [M = H, cation; R1, R3 = H, (un)substituted C1-8 org. group, A; R2 = (un)substituted C1-8 org. group; R4, R5, X, Y, Z = H, substituent; c = 2-6; m, n = 0-2], contg. .gtoreq.1 SO3M or PO3M2 group, with certain specified exclusions. These compds. and their solns. are useful as the colorants to prep. color filters for liq.-crystal displays. For example, cyclocondensation of EtO2CCH2CN, H2NCH2CH2OCH2CH2OH, and MeCOCH2CO2Me gave a hydroxypyridone, which was coupled with diazotized 2-amino-4-sulfobenzoic acid to produce I (M = H, R1 = CH2CH2OCH2CH2OH, R2 = Me, X = SO3H, Z = CN, m = 1, n = 0).

IT 331732-74-2P  
(prepn. of yellow pyridone azo dyes)

RN 331732-74-2 HCA

CN Benzoic acid, 2-[[1-(2-aminoethyl)-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



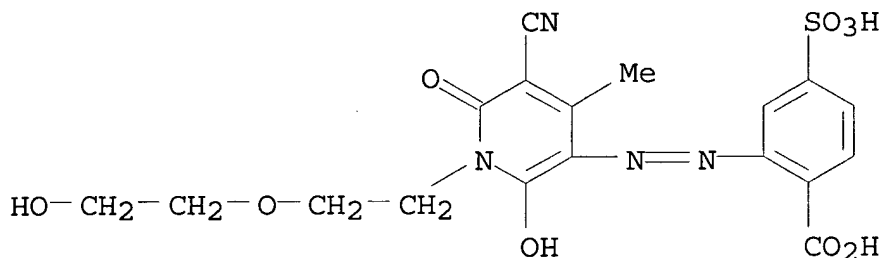
IT 331732-54-8P 331732-55-9P 331732-56-0P  
331732-57-1P 331732-58-2P 331732-59-3P  
331732-60-6P 331732-61-7P 331732-62-8P  
331732-63-9P 331732-64-0P 331732-65-1P  
331732-73-1P

(yellow pyridone azo dyes and their solns.)

RN 331732-54-8 HCA

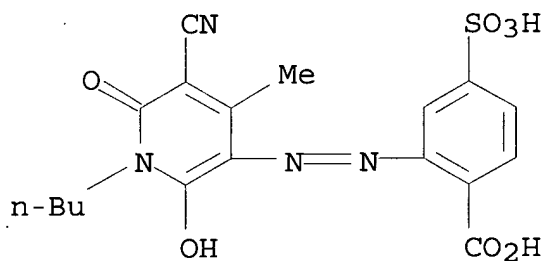
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-(2-

hydroxyethoxy)ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI)  
(CA INDEX NAME)



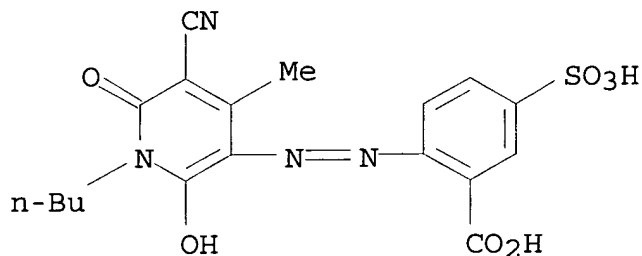
RN 331732-55-9 HCA

CN Benzoic acid, 2-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-4-sulfo- (9CI) (CA INDEX NAME)



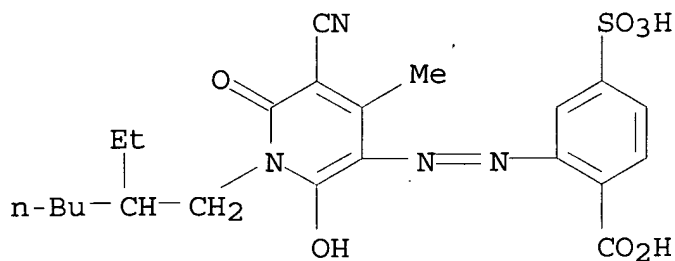
RN 331732-56-0 HCA

CN Benzoic acid, 2-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-5-sulfo- (9CI) (CA INDEX NAME)



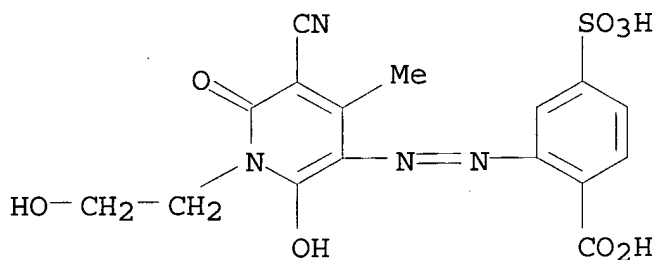
RN 331732-57-1 HCA

CN Benzoic acid, 2-[[5-cyano-1-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



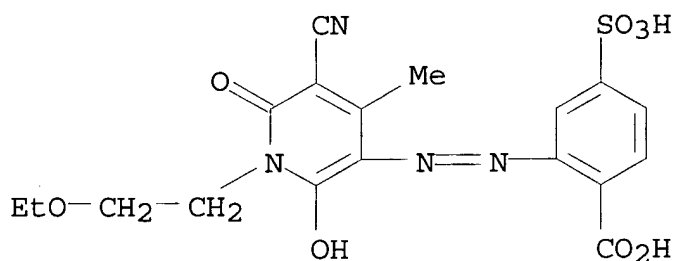
RN 331732-58-2 HCA

CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



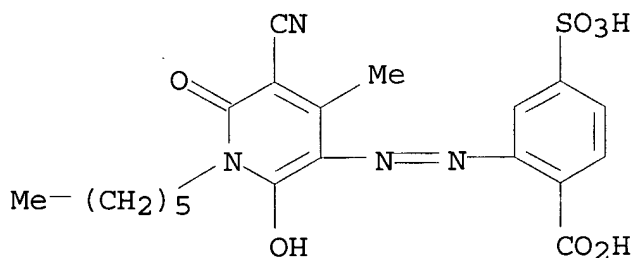
RN 331732-59-3 HCA

CN Benzoic acid, 2-[[5-cyano-1-(2-ethoxyethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



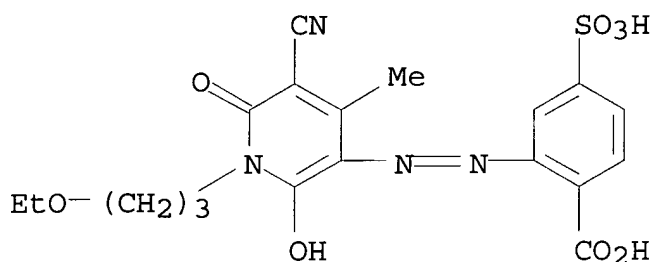
RN 331732-60-6 HCA

CN Benzoic acid, 2-[(5-cyano-1-hexyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-4-sulfo- (9CI) (CA INDEX NAME)



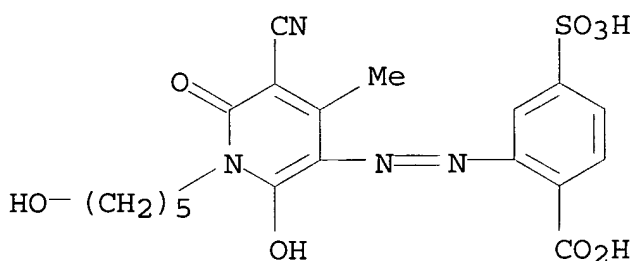
RN 331732-61-7 HCA

CN Benzoic acid, 2-[[5-cyano-1-(3-ethoxypropyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



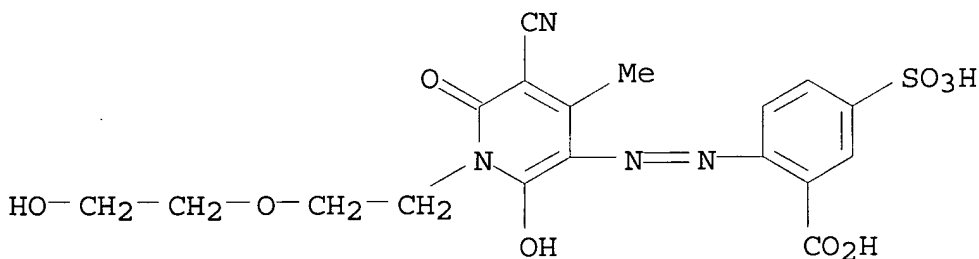
RN 331732-62-8 HCA

CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(5-hydroxypentyl)-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



RN 331732-63-9 HCA

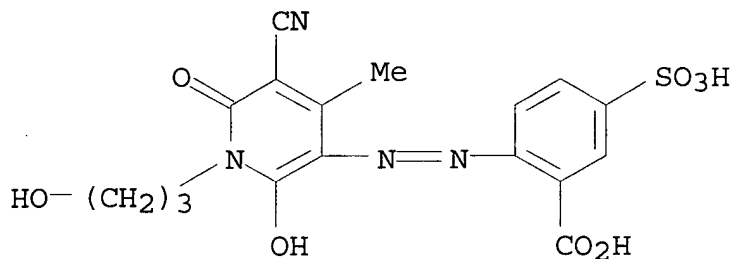
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-(2-hydroxyethoxy)ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)



RN 331732-64-0 HCA

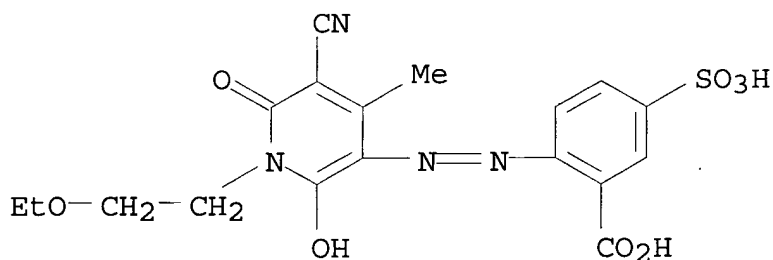
CN Benzoic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(3-hydroxypropyl)-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)





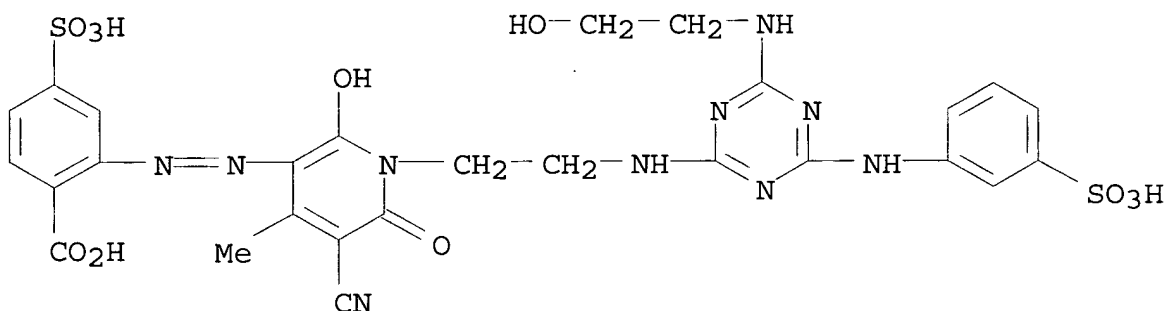
RN 331732-65-1 HCA

CN Benzoic acid, 2-[[5-cyano-1-(2-ethoxyethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-5-sulfo- (9CI) (CA INDEX NAME)



RN 331732-73-1 HCA

CN Benzoic acid, 2-[[[5-cyano-1,6-dihydro-2-hydroxy-1-[2-[[4-[(2-hydroxyethyl)amino]-6-[(3-sulfophenyl)amino]-1,3,5-triazin-2-yl]amino]ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-4-sulfo- (9CI) (CA INDEX NAME)



IC ICM C09B

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 42

ST pyridone azo dye color filter; **jet printing****ink** pyridone azo dyeIT **Inks**

(jet-printing; prepn. of inks contg. yellow pyridone azo dyes)

IT 331732-74-2P 331732-76-4P  
 (prepn. of yellow pyridone azo dyes)  
 IT 331732-54-8P 331732-55-9P 331732-56-0P  
 331732-57-1P 331732-58-2P 331732-59-3P  
 331732-60-6P 331732-61-7P 331732-62-8P  
 331732-63-9P 331732-64-0P 331732-65-1P  
 331732-66-2P 331732-67-3P 331732-68-4P 331732-69-5P  
 331732-70-8P 331732-71-9P 331732-72-0P 331732-73-1P  
 331732-75-3P  
 (yellow pyridone azo dyes and their solns.)

L28 ANSWER 3 OF 12 HCA COPYRIGHT 2002 ACS

131:272366 Preparation of colored polyurethanes. Gregory, Peter; James, Mark Robert; Pears, David Alan; Padget, John Christopher (Avecia Limited, UK). PCT Int. Appl. WO 9950326 A1 19991007, 35 pp.

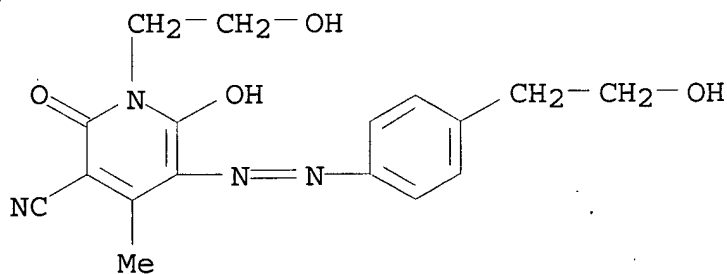
DESIGNATED STATES: W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1999-GB785 19990325. PRIORITY: GB 1998-6789 19980331.

AB A non-isocyanate terminated, colored, water-dispersible polyurethane having a wt.-av. mol. wt. <30,000 is obtainable from the reaction of a mixt. comprising the components: (i) .gtoreq.1 org. polyisocyanate; (ii) .gtoreq.1 isocyanate-reactive compd. providing water-dispersing groups; and (iii) .gtoreq.1 colorant having .gtoreq.2 functional groups selected from isocyanate groups and isocyanate-reactive groups. The polyurethanes are useful in inks esp. for ink jet printing.

IT 100834-31-9P 245470-78-4P  
 (prepn. of colored polyurethanes)

RN 100834-31-9 HCA

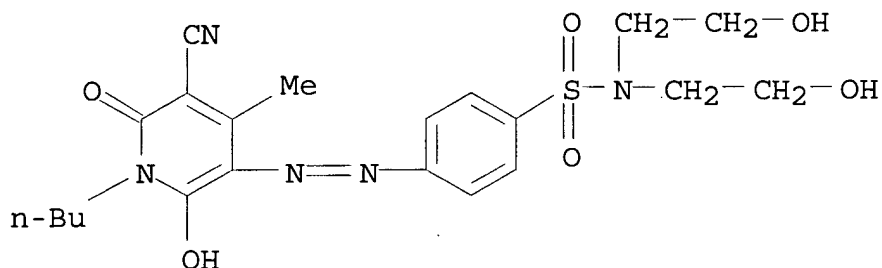
CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1-(2-hydroxyethyl)-5-[[4-(2-hydroxyethyl)phenyl]azo]-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



RN 245470-78-4 HCA

CN Benzenesulfonamide, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-

methyl-6-oxo-3-pyridinyl)azo] -N,N-bis(2-hydroxyethyl) - (9CI) (CA INDEX NAME)



IC ICM C08G018-08  
ICS C08G018-38; C09D011-00  
CC 35-5 (Chemistry of Synthetic High Polymers)  
ST colored polyurethane **jet printing ink**  
IT **Inks**  
(**jet-printing**; prepn. of colored polyurethanes)  
IT 28799-82-8P 37395-76-9P 47096-64-0P **100834-31-9P**  
184769-40-2P **245470-78-4P** 245470-80-8P 245470-81-9P  
245470-82-0P 245470-83-1P 245470-85-3P 245470-86-4P  
245470-87-5P  
(prepn. of colored polyurethanes)

L28 ANSWER 4 OF 12 HCA COPYRIGHT 2002 ACS  
125:117643 **Ink-jet printing inks**

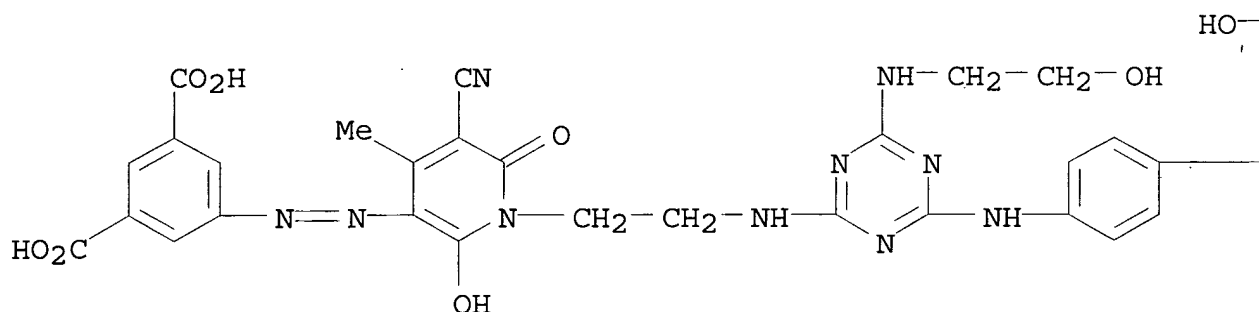
and printing devices. Teraoka, Hisashi; Takizawa, Yoshihisa; Sato, Shinichi; Katsuragi, Takashi (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08113744 A2 19960507 Heisei, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-239012 19950825. PRIORITY: JP 1994-222706 19940825.

AB The title inks are prepd. from dyes contg. .gtoreq.1 ammonium ion as counter ions, polyols (e.g., glycerol, polyethylene glycol, 1,2,6-hexanetriol, thiodiglycol), org. amines (e.g., diethanolamine, dipropanolamine, triethanolamine), urea or its derivs., and optionally surfactants.

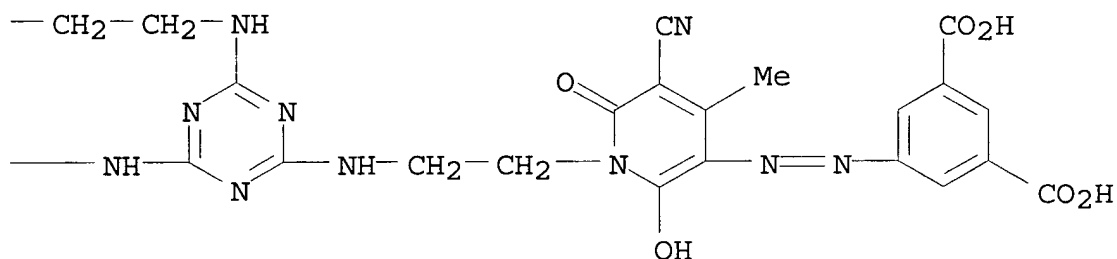
IT **179629-44-8**  
(**ink-jet printing inks**  
and printing devices)

RN 179629-44-8 HCA  
CN 1,3-Benzenedicarboxylic acid, 5,5'-[1,4-phenylenebis[imino[6-[(2-hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino-2,1-ethanediyl(5-cyano-2-hydroxy-4-methyl-6-oxo-1,3(6H)-pyridinediyl)azo]]bis- (9CI)  
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C09D011-00  
ICS B41J002-01; B41J002-175; B41M005-00; C09D011-02  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST polyol **jet printing ink**; org amine  
**jet printing ink**; urea deriv **jet**  
**printing ink**; surfactant **jet**  
**printing ink**  
IT Dyes, azo  
Surfactants  
(**ink-jet printing inks**  
and printing devices)  
IT Amines, uses  
(**ink-jet printing inks**  
and printing devices)  
IT **Inks**  
(**jet-printing, ink-jet**  
**printing inks** and printing devices)  
IT Alcohols, uses  
(polyhydric, **ink-jet printing**  
**inks** and printing devices)  
IT 56-81-5, 1,2,3-Propanetriol, uses 57-13-6, Urea, uses 57-55-6,  
1,2-Propanediol, uses 102-71-6, Triethanolamine, uses 106-69-4,  
1,2,6-Hexanetriol 107-21-1, 1,2-Ethanediol, uses 111-42-2, uses  
111-48-8, Thiodiglycol 9003-11-6, Pepol AS-053X 15438-70-7

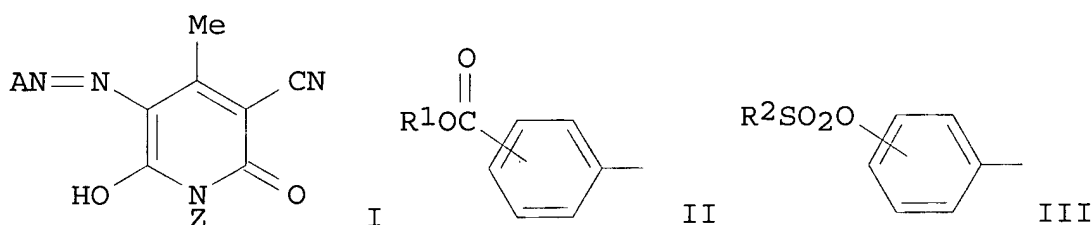
25322-68-3 80940-80-3, Acetylenol EH 85305-25-5, Dipropanolamine  
(ink-jet printing inks  
and printing devices)

IT 147-14-8D, Copper phthalocyanine, sulfonate derivs. 163212-03-1  
163212-04-2 163212-05-3 163212-08-6 175666-28-1  
179629-44-8  
(ink-jet printing inks  
and printing devices)

L28 ANSWER 5 OF 12 HCA COPYRIGHT 2002 ACS

122:83861 Jet-printing inks for  
hydrophobic fibers. Murakami, Yasuo; Izumi, Kaoru; Kubo, Motosada  
(Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06184481 A2  
19940705 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1992-353922 19921216.

GI

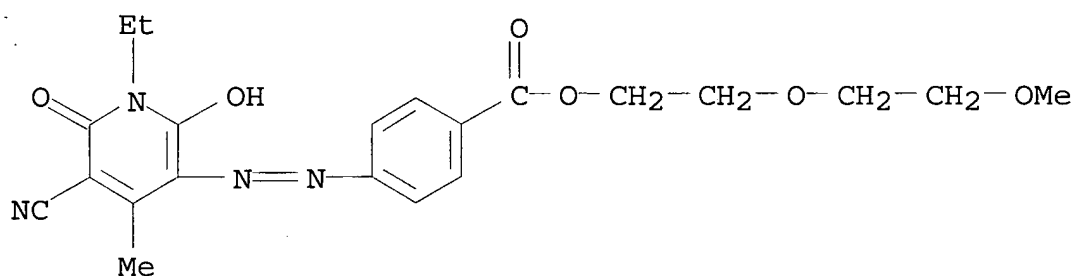


AB The title inks contain dispersed azo pigments I (A = II, III; R1 = alkyl, tetrahydrofurfuryl, alkoxyalkyl, alkoxyalkoxyalkyl; R2 = alkyl, Ph; Z = H, alkyl, alkoxyalkyl, alkoxyalkylalkyl; alkyl and alkoxy contain 1-6 C). A mixt. of I [A = 4-(tetrahydrofurfuryloxycarbonyl)phenyl; Z = Bu] 15, HCHO-Na naphthalenesulfonate condensate 9, Na ligninsulfonate 9, and water 50 parts was wet milled and filtered to give a dispersion which (65 parts) was mixed with ethylene oxide-propylene oxide block copolymer 1.2, glycerol 7.8, and water 43 parts and filtered to give an ink contg. 10% solids.

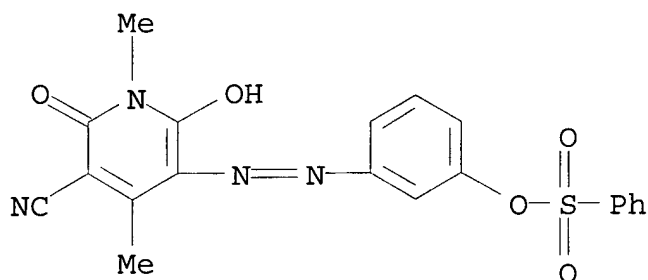
IT 49744-26-5 59312-61-7 61157-43-5  
89502-75-0 160245-89-6 160245-90-9  
160245-91-0 160245-92-1 160245-93-2  
160245-94-3

(dye; in jet-printing inks for  
hydrophobic fibers)

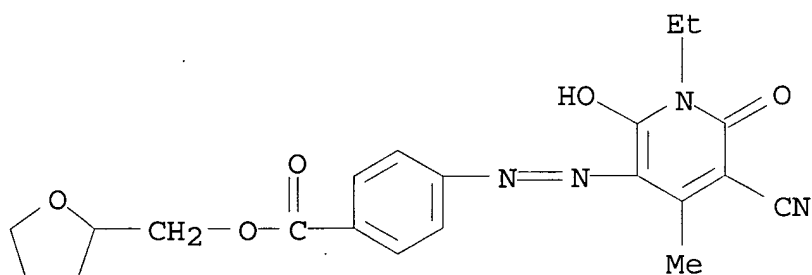
RN 49744-26-5 HCA  
CN Benzoic acid, 4-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, 2-(2-methoxyethoxy)ethyl ester (9CI) (CA INDEX NAME)



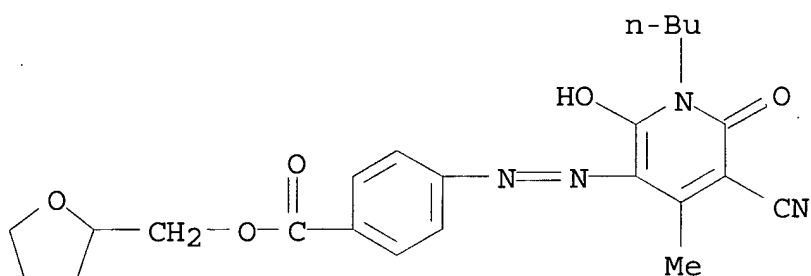
RN 59312-61-7 HCA  
 CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo-5-  
 [[3-[(phenylsulfonyl)oxy]phenyl]azo] - (9CI) (CA INDEX NAME)



RN 61157-43-5 HCA  
 CN Benzoic acid, 4-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-  
 oxo-3-pyridinyl)azo]-, (tetrahydro-2-furanyl)methyl ester (9CI) (CA  
 INDEX NAME)

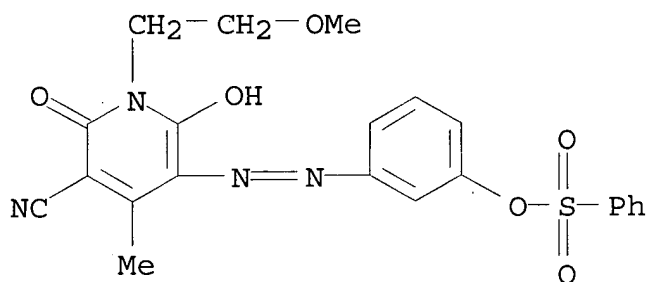


RN 89502-75-0 HCA  
 CN Benzoic acid, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-  
 oxo-3-pyridinyl)azo]-, (tetrahydro-2-furanyl)methyl ester (9CI) (CA  
 INDEX NAME)



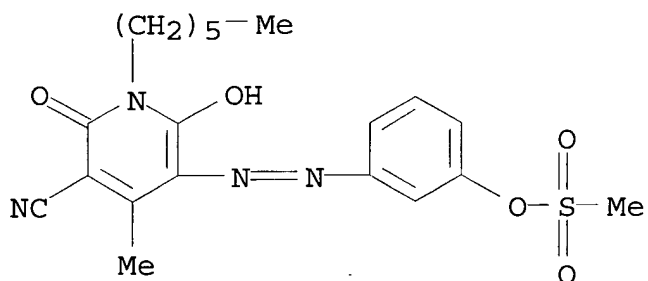
RN 160245-89-6 HCA

CN 3-Pyridinecarbonitrile, 1,2-dihydro-6-hydroxy-1-(2-methoxyethyl)-4-methyl-2-oxo-5-[[3-[(phenylsulfonyl)oxy]phenyl]azo]- (9CI) (CA INDEX NAME)



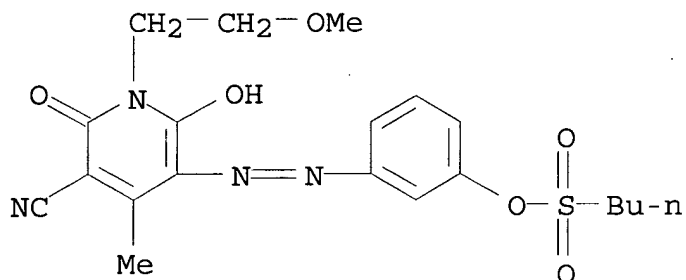
RN 160245-90-9 HCA

CN 3-Pyridinecarbonitrile, 1-hexyl-1,2-dihydro-6-hydroxy-4-methyl-5-[[3-[(methylsulfonyl)oxy]phenyl]azo]-2-oxo- (9CI) (CA INDEX NAME)



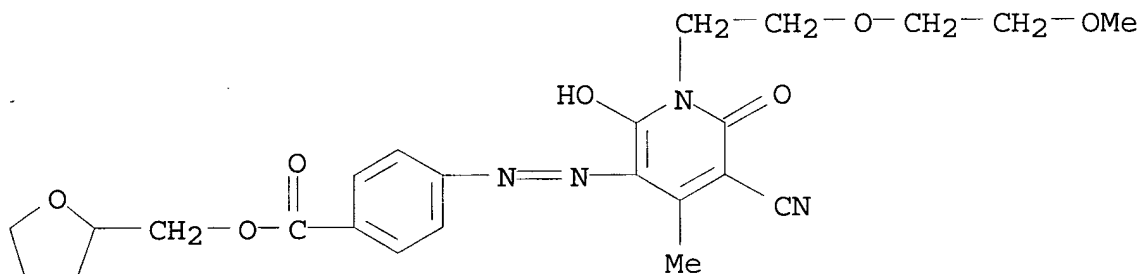
RN 160245-91-0 HCA

CN 1-Butanesulfonic acid, 3-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-methoxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]phenyl ester (9CI) (CA INDEX NAME)



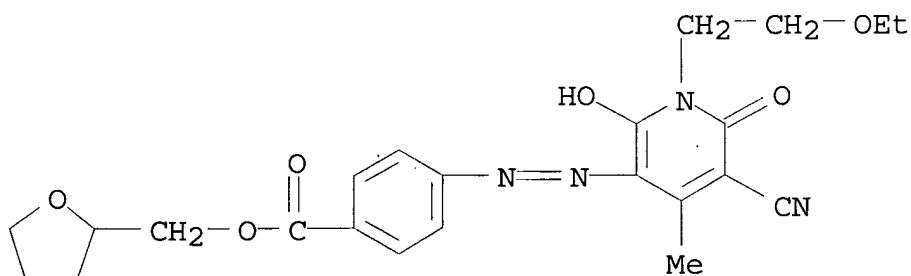
RN 160245-92-1 HCA

CN Benzoic acid, 4-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-methoxyethoxy)ethyl]-4-methyl-6-oxo-3-pyridinyl]azo]-, (tetrahydro-2-furanyl)methyl ester (9CI) (CA INDEX NAME)



RN 160245-93-2 HCA

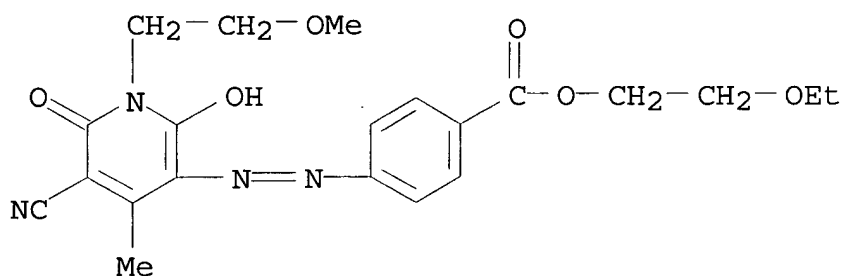
CN Benzoic acid, 4-[[5-cyano-1-(2-ethoxyethyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl]azo]-, (tetrahydro-2-furanyl)methyl ester (9CI) (CA INDEX NAME)



RN 160245-94-3 HCA

CN Benzoic acid, 4-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-methoxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-, 2-ethoxyethyl ester (9CI) (CA INDEX NAME)

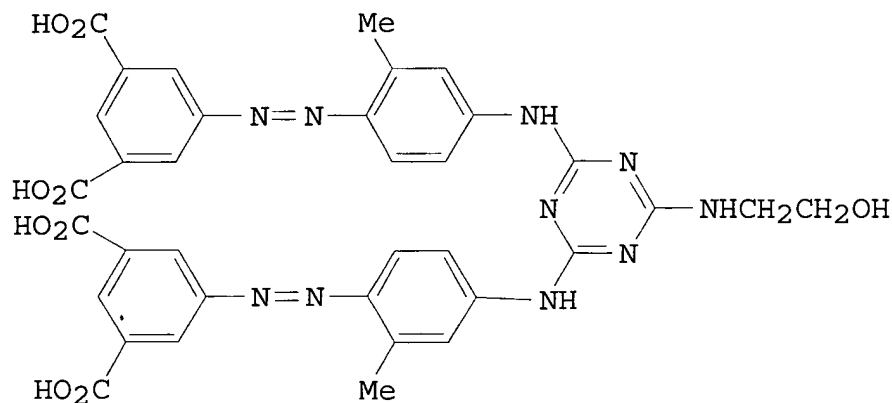




IC ICM C09D011-00  
ICS B41M005-00; D06P005-00  
CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 40  
ST ink azo dye hydrophobic fiber; pyridinone azo dye **ink**  
**jet printing; jet printing**  
ink azo dye; polyester fiber **jet printing**  
ink  
IT Dyes, azo  
(in **jet-printing inks** for  
hydrophobic fibers)  
IT Polyester fibers, miscellaneous  
(**jet-printing inks** contg. azo dyes  
for)  
IT **Inks**  
(**jet-printing**, azo dye-contg. inks for  
hydrophobic fibers)  
IT 49744-26-5 59312-61-7 61157-43-5  
89502-75-0 93916-34-8 160245-89-6  
160245-90-9 160245-91-0 160245-92-1  
160245-93-2 160245-94-3  
(dye; in **jet-printing inks** for  
hydrophobic fibers)

L28 ANSWER 6 OF 12 HCA COPYRIGHT 2002 ACS  
116:196216 Anionic disazo compounds for use in **jet-**  
**printing inks**. Gregory, Peter; Kenyon, Ronald  
Wynford (Imperial Chemical Industries PLC, UK). Eur. Pat. Appl. EP  
468647 A1 19920129, 20 pp. DESIGNATED STATES: R: AT, BE, CH, DE,  
ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW.  
APPLICATION: EP 1991-305940 19910701. PRIORITY: GB 1990-16448  
19900726.

GI

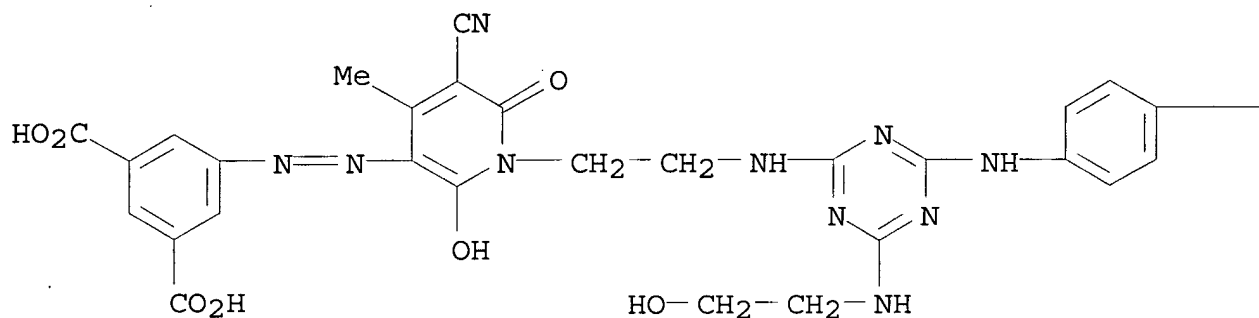


AB The title compds., represented in the free acid form as  
 ZN:NYNR1X(NR2LNR3X1)nNR4Y1N:NZ1, in which L is a divalent org.  
 group, R1-R4 are H or (un)substituted alkyl; X and X1 are CO or  
 divalent residues of substituted s-triazines, pyrimidines, or  
 chloropyridines; Y and Y1 are divalent residues of substituted  
 benzenes, hydroxypyridones, or phenylpyrazolones; Z and Z1 are aryl,  
 .gtoreq.1 of which contains .gtoreq.1 CO2H or COSH groups; and n = 0  
 or 1, dissolve in H2O contg. diethylene glycol to give inks which  
 give fast bright yellow shades when applied to plain paper by  
**jet printing**. 5-Aminoisophthalic acid was  
 diazotized and coupled with m-toluidine, and the product was  
 condensed 2:1 with cyanuric chloride and then with ethanolamine to  
 give I, which was treated with NH4OH, dialyzed to remove Cl-, and  
 dissolved in 92.5:7.5 H2O-O(CH2CH2OH)2 to give a yellow ink.

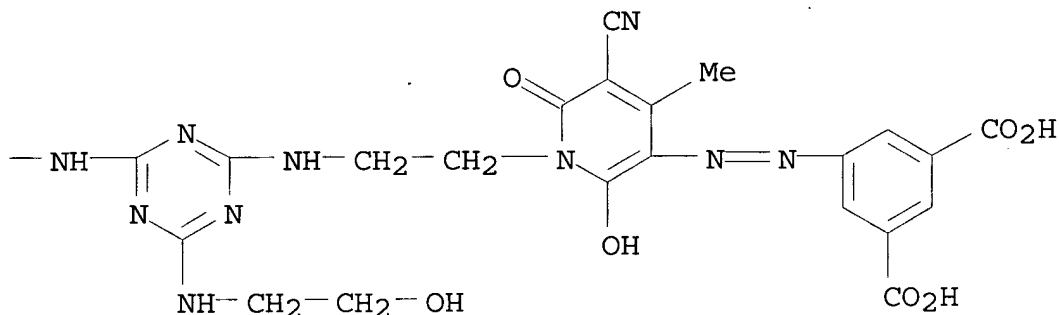
IT **140668-45-7P**  
 (prepn. of, as yellow dye for **jet-printing**  
**ink**)

RN 140668-45-7 HCA  
 CN 1,3-Benzenedicarboxylic acid, 5,5'-[1,4-phenylenebis[imino[6-[(2-  
 hydroxyethyl)amino]-1,3,5-triazine-4,2-diyl]imino-2,1-ethanediyl(5-  
 cyano-2-hydroxy-4-methyl-6-oxo-1,3(6H)-pyridinediyl)azo]]bis-,  
 tetraammonium salt (9CI) (CA INDEX NAME)

PAGE 1-A

● 4 NH<sub>3</sub>

PAGE 1-B



IC ICM C09B062-00  
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and  
 Photographic Sensitizers)  
 Section cross-reference(s): 42  
 ST disazo dye **jet printing ink**;  
 carboxyphenyl azo dye yellow; triazine disazo dye ink  
 IT Dyes, azo  
 (prepn. of disazo, for **jet-printing**  
**ink**)  
 IT **Inks**  
 (**jet-printing**, yellow disazo dyes for)  
 IT 140668-23-1P 140668-24-2P 140668-25-3P 140668-26-4P  
 140668-27-5P 140668-28-6P 140668-29-7P 140668-30-0P  
 140668-31-1P 140668-32-2P 140668-33-3P 140668-34-4P

140668-35-5P 140668-36-6P 140668-37-7P 140668-38-8P  
 140668-39-9P 140668-40-2P 140668-41-3P 140668-42-4P  
 140668-43-5P 140668-44-6P **140668-45-7P** 140668-46-8P  
 140668-47-9P 140668-48-0P 140668-49-1P 140668-50-4P  
 140679-60-3P 140679-61-4P

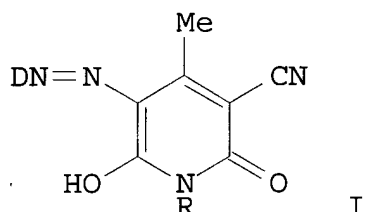
(prepn. of, as yellow dye for **jet-printing ink**)

L28 ANSWER 7 OF 12 HCA COPYRIGHT 2002 ACS

113:214045 Recording liquids for **ink-jet**

**printing**. Takimoto, Hiroshi (Mitsubishi Kasei Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02153977 A2 19900613 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-308428 19881206.

GI



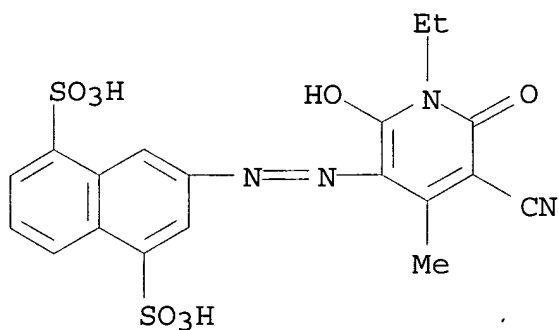
AB Storage-stable title liqs., forming bright prints with high d. and good light resistance, comprise aq. medium and .gtoreq.1 azo dye I [D = SO<sub>3</sub>M-substituted Ph or naphthyl; R = H, lower (hydroxy)alkyl; M = alkali metal, ammonium, amine salt]. Thus, an aq. soln. contg. ethylene glycol monoethyl ether 25, ethylene glycol 22, and azo dye I [D = 2,5-(NaO<sub>3</sub>S)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>; R = H] 2% was filtered to give title ink which showed no pptn. after storage for 1 mo at 5.degree. and 60.degree. and formed **prints by jet printing** with good light resistance.

IT 130570-86-4 130570-88-6 130570-89-7  
 130570-91-1 130640-89-0

(inks contg., for **jet printing**,  
 storage-stable, with good light resistance)

RN 130570-86-4 HCA

CN 1,5-Naphthalenedisulfonic acid, 3-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, diammonium salt (9CI) (CA INDEX NAME)

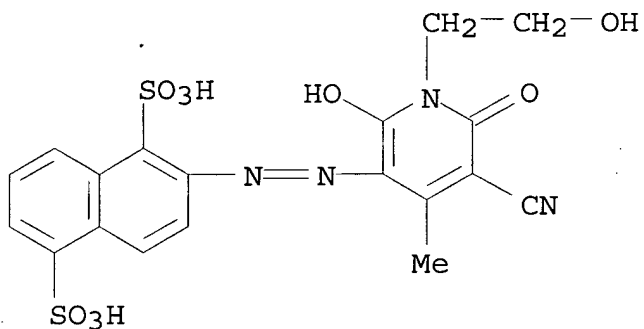


● 2 NH<sub>3</sub>

RN 130570-88-6 HCA  
 CN 1,5-Naphthalenedisulfonic acid, 2-[[5-cyano-1,6-dihydro-2-hydroxy-1-(2-hydroxyethyl)-4-methyl-6-oxo-3-pyridinyl]azo]-, compd. with 2,2',2''-nitritotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

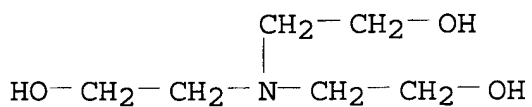
CM 1

CRN 130570-87-5  
 CMF C19 H16 N4 O9 S2



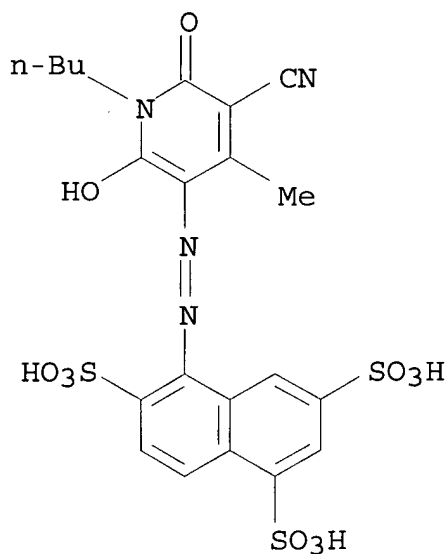
CM 2

CRN 102-71-6  
 CMF C6 H15 N O3



RN 130570-89-7 HCA

CN 1,3,6-Naphthalenetrisulfonic acid, 5-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

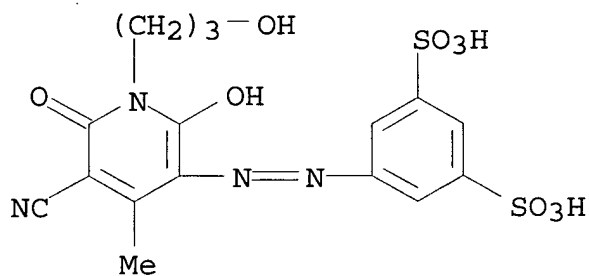
RN 130570-91-1 HCA

CN 1,3-Benzenedisulfonic acid, 5-[[5-cyano-1,6-dihydro-2-hydroxy-1-(3-hydroxypropyl)-4-methyl-6-oxo-3-pyridinyl]azo]-, compd. with 2-(dimethylamino)ethanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 130570-90-0

CMF C16 H16 N4 O9 S2

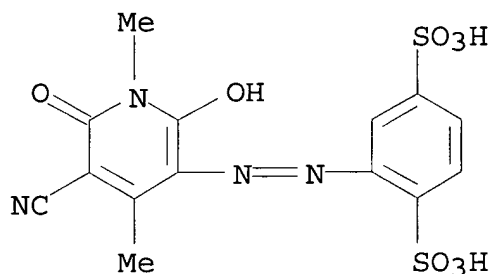


CM 2

CRN 108-01-0  
CMF C4 H11 N O

Me<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-OH

RN 130640-89-0 HCA  
CN 1,4-Benzenedisulfonic acid, 2-[(5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo]-, dilithium salt (9CI) (CA INDEX NAME)

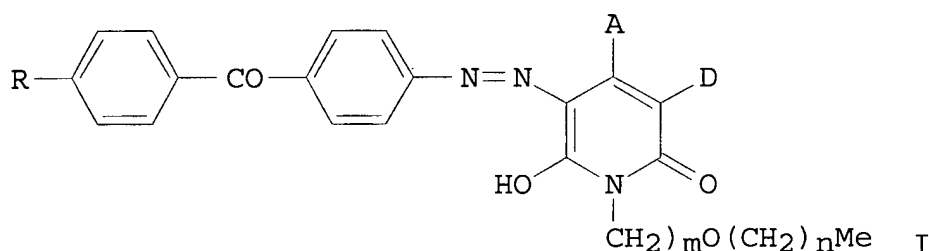


⊙2 Li

IC ICM C09D011-02  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 41  
ST **jet printing ink** azo dye; pyridone azo dye **jet printing**; storage stability **jet printing ink**; light resistance **jet printing dye**  
IT Dyes, azo  
(pyridone-contg., **inks** contg., for **jet printing**)  
IT **Inks**  
(**jet-printing**, storage-stable, azopyridone dyes for, with good light resistance)  
IT 130570-86-4 130570-88-6 130570-89-7  
130570-91-1 130640-88-9 130640-89-0  
(**inks** contg., for **jet printing**, storage-stable, with good light resistance)

L28 ANSWER 8 OF 12 HCA COPYRIGHT 2002 ACS  
111:59547 (Alkoxyalkyl)hydroxypyridone azo dyes for nonpolar media.  
Tappe, Horst; Ritter, Josef; Sarcevic, Vladimir (Cassella A.-G., Fed. Rep. Ger.). Eur. Pat. Appl. EP 302401 A1 19890208, 9 pp.  
DESIGNATED STATES: R: CH, DE, ES, FR, GB, IT, LI. (German).  
CODEN: EPXXDW. APPLICATION: EP 1988-112279 19880729. PRIORITY: DE 1987-3726301 19870807.

GI



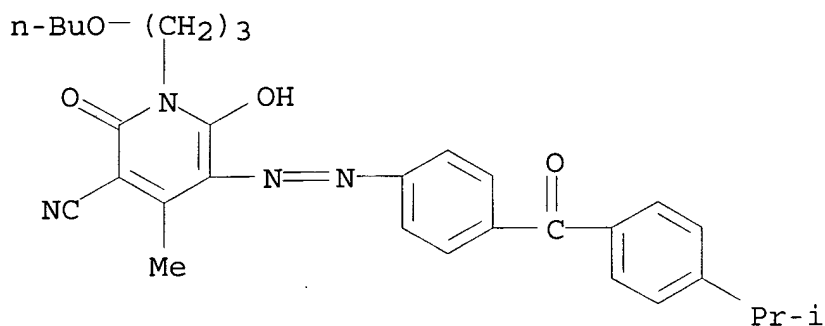
AB The title dyes I [A = H, C1-4 alkyl; D = H, CN, aminocarbonyl; R = (un)substituted C1-6 alkyl; m = 2-4; n = 1-5], useful for coloring polymers, synthetic fibers, polyester fibers, acetate fibers, **jet-printing inks**, fats, oils, etc., in fast yellow shades, are prepd. 4-Amino-4'-isopropylbenzophenone was diazotized and coupled with 1-(.gamma.-butoxypropyl)-2-hydroxy-3-cyano-4-methylpyridone, forming I (A = Me, D = CN, R = iso-Pr, m = n = 3), .lambda.max [1,4-(MeO2C)2C6H4] 436 nm, m.p. 110-116.degree..

IT 121807-78-1P 121807-79-2P

(manuf. of, as yellow dye for synthetic fibers and nonpolar media)

RN 121807-78-1 HCA

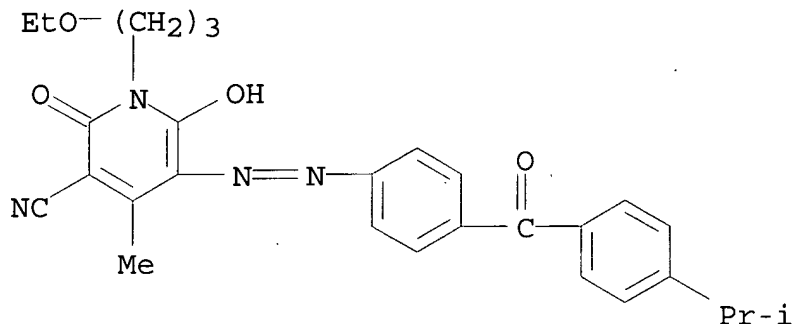
CN 3-Pyridinecarbonitrile, 1-(3-butoxypropyl)-1,2-dihydro-6-hydroxy-4-methyl-5-[[4-[4-(1-methylethyl)benzoyl]phenyl]azo]-2-oxo- (9CI) (CA INDEX NAME)



RN 121807-79-2 HCA

CN 3-Pyridinecarbonitrile, 1-(3-ethoxypropyl)-1,2-dihydro-6-hydroxy-4-methyl-5-[[4-[4-(1-methylethyl)benzoyl]phenyl]azo]-2-oxo- (9CI) (CA INDEX NAME)





IC ICM C09B029-42

ICS D06P001-18

CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 37, 40

IT **Inks**

(**jet-printing**, dyes for, yellow,

[(alkoxyalkyl)hydroxypyridonyl]azo]benzophenones, manuf. of)

IT 121807-78-1P 121807-79-2P

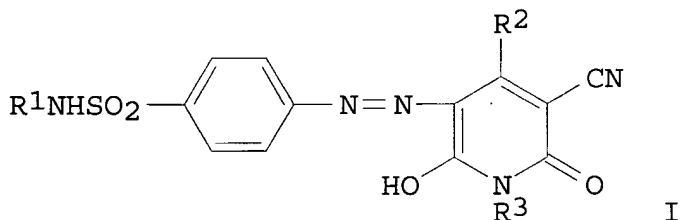
(manuf. of, as yellow dye for synthetic fibers and nonpolar media)

L28 ANSWER 9 OF 12 HCA COPYRIGHT 2002 ACS

110:116891 Yellow oil-based **inks** for **ink-jet**

**printing**. Tabayashi, Isao; Harada, Hiroshi; Inoue, Sadahiro; Fukutomi, Hiroshi (Dainippon Ink and Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 63193975 A2 19880811 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-26027 19870206.

GI



I

AB Storage-stable title inks with improved printability contain yellow dyes I (R1 = C1-20 alkyl, C1-20 alkylene; R2-3 = C1-12 alkyl, C1-12 alkylene). Thus, I (R1 = Bu, R2 = n-C8H17, R3 = Et) 2.0, phenethylcumene 70.0, and N-methylacetamide 28.0% were mixed and filtered to give title ink storable >6 mo at room temp.

IT 55290-62-5 119401-52-4 119401-53-5

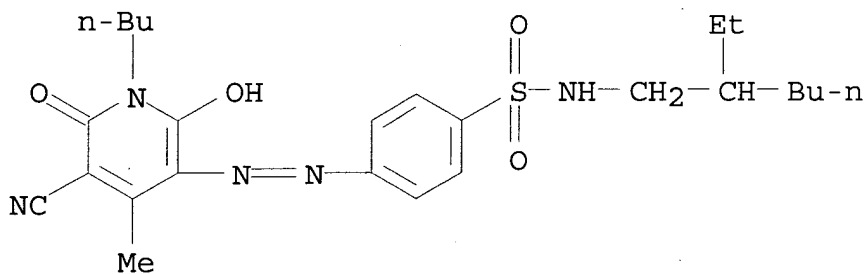
119401-54-6 119401-55-7 119401-56-8

(dye, yellow, oil-based inks contg., with improved storage

stability, for ink-jet printing)

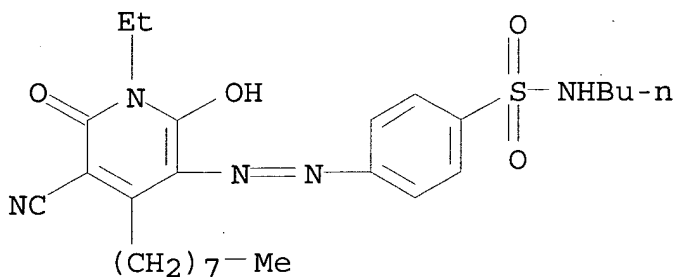
RN 55290-62-5 HCA

CN Benzenesulfonamide, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-N-(2-ethylhexyl)- (9CI) (CA INDEX NAME)



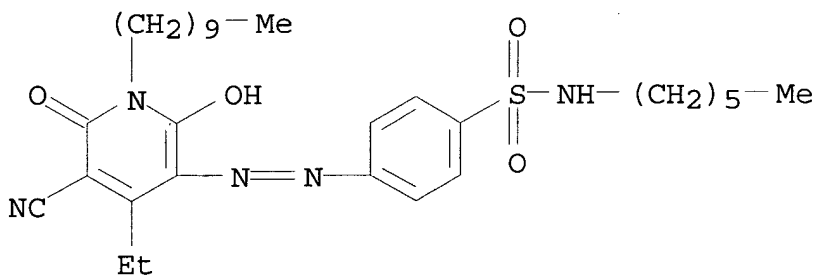
RN 119401-52-4 HCA

CN Benzenesulfonamide, N-butyl-4-[(5-cyano-1-ethyl-1,6-dihydro-2-hydroxy-4-octyl-6-oxo-3-pyridinyl)azo]- (9CI) (CA INDEX NAME)



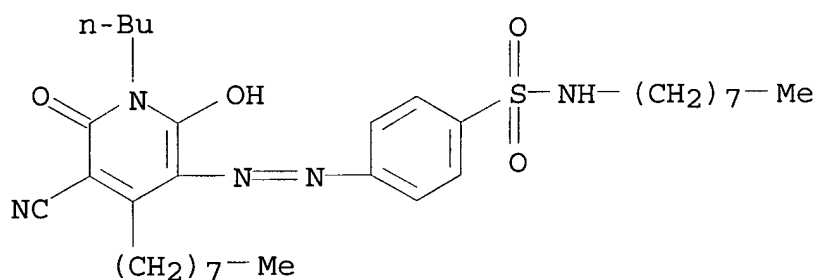
RN 119401-53-5 HCA

CN Benzenesulfonamide, 4-[(5-cyano-1-decyl-4-ethyl-1,6-dihydro-2-hydroxy-6-oxo-3-pyridinyl)azo]-N-hexyl- (9CI) (CA INDEX NAME)

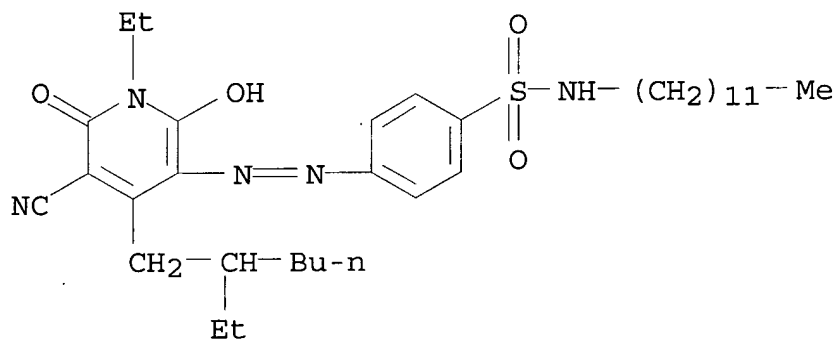


RN 119401-54-6 HCA

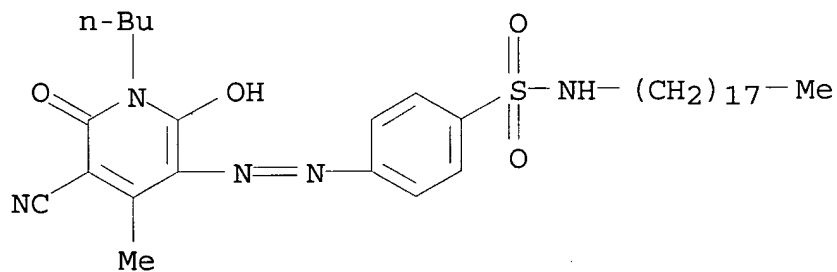
CN Benzenesulfonamide, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-octyl-6-oxo-3-pyridinyl)azo]-N-octyl- (9CI) (CA INDEX NAME)



RN 119401-55-7 HCA  
 CN Benzenesulfonamide, 4-[[5-cyano-1-ethyl-4-(2-ethylhexyl)-1,6-dihydro-2-hydroxy-6-oxo-3-pyridinyl]azo]-N-dodecyl- (9CI) (CA INDEX NAME)



RN 119401-56-8 HCA  
 CN Benzenesulfonamide, 4-[(1-butyl-5-cyano-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridinyl)azo]-N-octadecyl- (9CI) (CA INDEX NAME)



IC ICM C09D011-00  
 ICS C09B029-42; C09D011-00; C09D011-02  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST yellow oil based ink durability; oil based ink storage stability;  
 azo dye ink jet printing  
 IT 55290-62-5 119401-52-4 119401-53-5  
 119401-54-6 119401-55-7 119401-56-8  
 (dye, yellow, oil-based inks contg., with improved storage

stability, for **ink-jet printing**)

L28 ANSWER 10 OF 12 HCA COPYRIGHT 2002 ACS

110:77424 Fluorotriazine dye-containing **inks** for **ink**

-**jet** dyeing of textiles. Nagashima, Susumu (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63168477 A2 19880712 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-310117 19861229.

GI For diagram(s), see printed CA Issue.

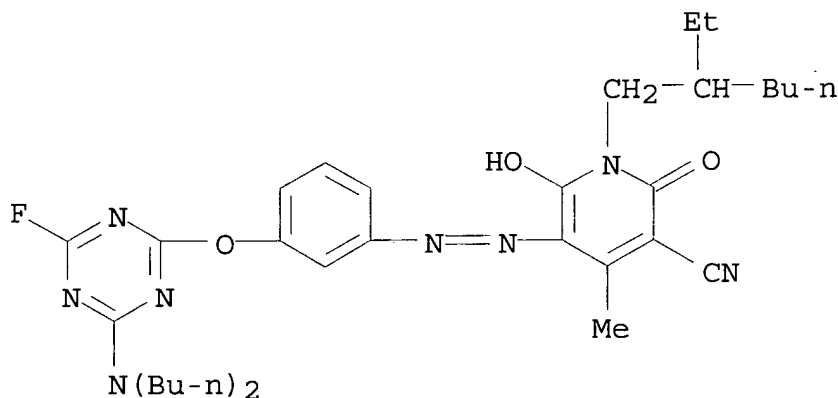
AB The inks having good anticlogging and storage stability comprise water-insol. reactive disperse dyes I [D = water-insol. chromophore; X = O, NH; Y = OR<sup>1</sup>, NR<sup>2</sup>R<sup>3</sup>; R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> = H, (un)substituted alkyl, aryl, aralkyl; NR<sup>2</sup>R<sup>3</sup> may be 5- or 6-membered ring] 1-30, nonionic surfactant [polyoxyethylene (un)substituted phenyl or Me ether] and anionic surfactant II (M = Na, K, NH<sub>4</sub>) mixts. 0.2-75.2, H<sub>2</sub>O 23.3-98.3 and alkali generator. Thus, an ink of I 5, nonionic surfactant 27, II (M = Na) 1, H<sub>2</sub>O 57, and CCl<sub>3</sub>CO<sub>2</sub>Na 10 g showed good flowability after heated at 60.degree. for 1h, or cooled at -15.degree. for 1 h or stored at room temp. for 3 mo., and good anticlogging at the nozzle and coloring power on various textiles (polyesters or cellulose).

IT 105780-27-6

(dye, inks contg., for textile **ink-jet printing**, with good storability and nozzle clogging resistance)

RN 105780-27-6 HCA

CN 3-Pyridinecarbonitrile, 5-[[3-[[4-(dibutylamino)-6-fluoro-1,3,5-triazin-2-yl]oxy]phenyl]azo]-1-(2-ethylhexyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICS C09B067-26; C09D011-00; C09D011-02

CC 40-6 (Textiles and Fibers)

Section cross-reference(s): 41, 43

ST fluorotriazine dye **ink jet** textile; surfactant

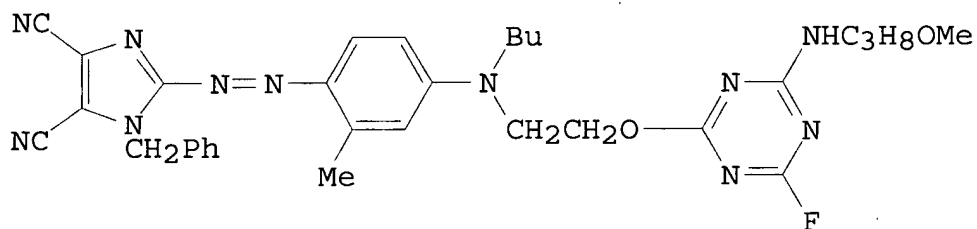
**ink jet** textile; alk agent **ink**

**jet** textile; anticlogging ink textile dyeing; storage

- IT stability ink textile dyeing  
 IT Dyes, reactive  
     (fluorotriazine, disperse, for **ink-jet printing** of textiles)  
 IT Surfactants  
     (inks contg., for **ink-jet printing** of textiles)  
 IT Textile **printing**  
     (**ink-jet**, inks for)  
 IT Inks  
     (**jet-printing**, for textiles, storable, nozzle clogging-resistant)  
 IT 94368-29-3 **105780-27-6** 107215-46-3 107230-69-3  
     (dye, inks contg., for textile **ink-jet printing**, with good storability and nozzle clogging resistance)  
 IT 650-51-1  
     (inks contg., for textile **ink-jet printing**)  
 IT 9004-74-4 26545-58-4 90267-41-7  
     (surfactants, inks contg., for textile **ink-jet printing**)

L28 ANSWER 11 OF 12 HCA COPYRIGHT 2002 ACS  
 107:60598 Inks for simultaneous **ink-jet printing** of cotton-polyester blend fabrics. Nagashima, Susumu; Shimizu, Kanji; Yamaguchi, Kazuya (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62010173 A2 19870119 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-148083 19850705.

GI

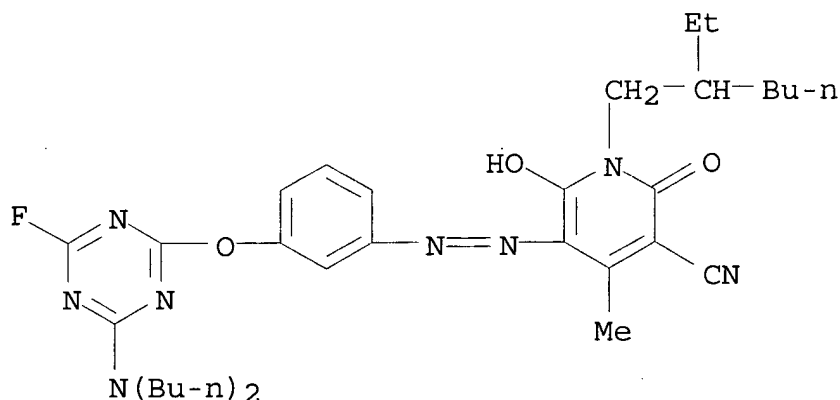


- AB Inks producing sharp images without clogging the jet nozzles and drying on nozzle tips comprised fluorotriazine group-contg. reactive disperse dye 1-30, nonionic-anionic surfactant mixt. 0.2-75.2, and tertiary amine 0.5-15%. Thus, a typical ink comprised I 5, 2,6,4-(PhMeCH)<sub>2</sub>MeC<sub>6</sub>H<sub>2</sub>O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>8</sub>H 2, MeO(CH<sub>2</sub>CH<sub>2</sub>O)<sub>8</sub>H 25, di-Na methylenedinitrophenylenesulfonate 1, triethanolamine 2.5, and water to 100 g.  
 IT **105780-27-6**  
     (dye, for simultaneous **ink-jet**

**printing** of polyester-cotton blends, dispersants for)

RN 105780-27-6 HCA

CN 3-Pyridinecarbonitrile, 5-[[3-[[4-(dibutylamino)-6-fluoro-1,3,5-triazin-2-yl]oxy]phenyl]azo]-1-(2-ethylhexyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



IC ICM C09D011-00

ICA C09B067-40

CC 40-6 (Textiles and Fibers)

ST **ink jet printing** polyester cotton;  
reactive disperse dye **jet printing**; dispersant  
**jet printing ink**

IT Polyester fibers, uses and miscellaneous  
(cotton blends, simultaneous **ink jet**  
**printing** of, reactive disperse dyes and dispersants for)

IT Dispersing agents  
(nonionic-anionic mixts., for reactive disperse dyes for  
**ink-jet printing** of polyester-cotton  
blends)

IT Textile **printing**  
(**ink-jet**, of polyester-cotton blends,  
reactive disperse dye and dispersants for)

IT 9004-74-4 26545-58-4 90267-41-7  
(dispersants contg., for reactive disperse dyes for simultaneous  
**ink-jet printing** of polyester-cotton  
blends)

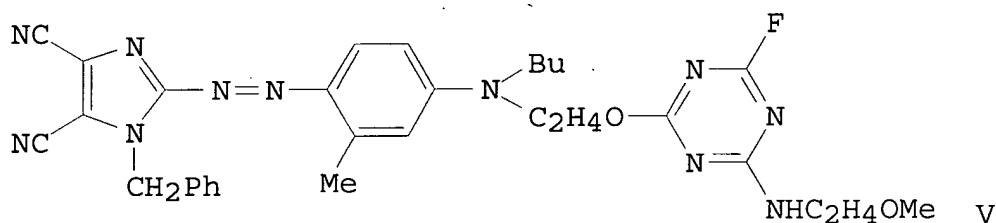
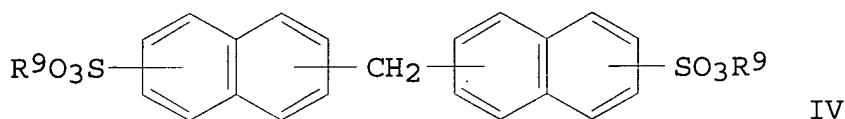
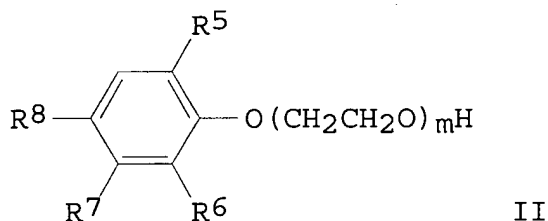
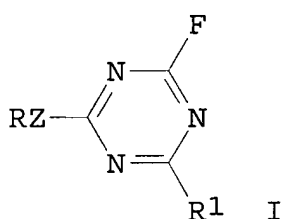
IT 94368-29-3 **105780-27-6** 107215-46-3 107230-69-3  
(dye, for simultaneous **ink-jet**  
**printing** of polyester-cotton blends, dispersants for)

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106:197954 **Jet-printing inks** for textiles.

Nagashima, Susumu; Shimizu, Kanji (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61241371 A2 19861027 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-83322 19850418.

GI



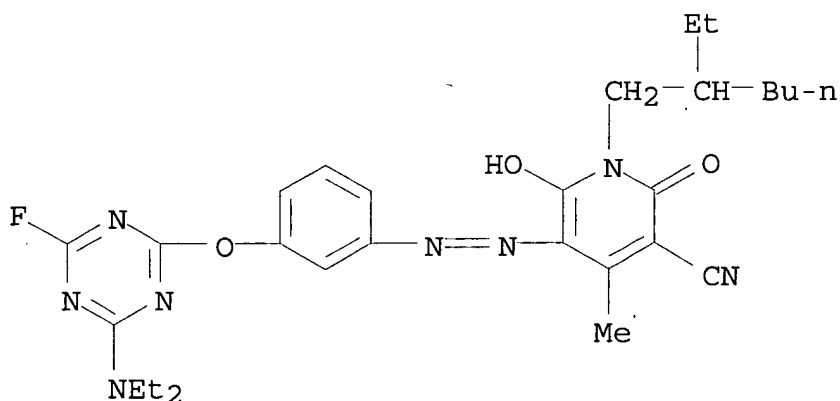
AB Inks, storage-stable and anticlogging and useful for dyeing of polyester-cellulose blended fabrics, comprise 1-30% reactive disperse dyes I [R = water-insol. dye residue; R1 = OR2, NR3R4; R2-R4 = H, (substituted) alkyl, aryl, aralkyl; NR3R4 may be a 5- or 6-membered heterocycle; Z = O, NH] and 0.2-75% mixts. of nonionic surfactants II (R5, R6 = H, PhCHMe; R7 = H, Me; R8 = H, Me, PhCHMe; .gtoreq.1 of R5, R6, and R8 is PhCHMe; m = 7-150), nonionic surfactants MeO(CH2CH2O)nH (III; n = 6-30), and anionic surfactants IV (R9 = Na, K, NH4), adjusted to pH 6.5-7.5 with org. acid salts. A compn. of V 5, II (R5 = R6 = PhCHMe, R7 = H, R8 = Me, m = 30) 2, III (n = 6) 25, and IV (R9 = Na) 1 g (with pH adjusted to 7 by aq. NaOAc) and the balance to 100 g H2O showed viscosity <50 cP at 25.degree. and good storage stability, and was **jet-printed** on a 65:35 polyester-cotton blend, producing sharp images without clogging the nozzle or adhering to the nozzle tip.

IT 108224-37-9

(inks contg. surfactants and, storage-stable and anticlogging, for **jet printing** of cotton-polyester blends)

RN 108224-37-9 HCA

CN 3-Pyridinecarbonitrile, 5-[[[3-[[4-(diethylamino)-6-fluoro-1,3,5-triazin-2-yl]oxy]phenyl]azo]-1-(2-ethylhexyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxo- (9CI) (CA INDEX NAME)



- IC ICM C09D011-00  
ICS C09B067-46; D06P001-384; D06P001-613
- CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 40
- ST azo dye **jet printing ink**; surfactant  
polyoxyethylene deriv ink; dyeing polyester cotton blend; storage  
stability **jet printing ink**;  
anticlogging **jet printing ink**
- IT Surfactants  
(anionic, inks contg. reactive disperse dye and nonionic  
surfactants and, storage-stable and anticlogging, for **jet  
printing** of cotton-polyester blends)
- IT Dyes  
(disperse, inks contg. surfactants and, for **jet-  
printing** of cotton-polyester blends)
- IT Textile **printing**  
(**ink-jet**, of cotton-polyester blends with  
inks contg. reactive disperse dyes and anionic and nonionic  
surfactants)
- IT **Inks**  
(**jet-printing**, anticlogging, storage-stable,  
contg. reactive disperse dye and anionic and nonionic  
surfactants, for cotton-polyester blends)
- IT Surfactants  
(nonionic, inks contg. reactive disperse dye and anionic  
surfactant and, storage-stable and anticlogging, for **jet  
printing** of cotton-polyester blends)
- IT 9004-74-4 90267-41-7  
(ink contg. reactive disperse dye and anionic surfactant and,  
storage-stable and anticlogging, for **jet  
printing** of cotton-polyester blends)
- IT 26545-58-4  
(ink contg. reactive disperse dye and nonionic surfactants and,  
storage-stable and anticlogging, for **jet  
printing** of cotton-polyester blends)
- IT 107215-46-3 107230-69-3 108224-36-8 108224-37-9



(inks contg. surfactants and, storage-stable and anticlogging,  
for **jet printing** of cotton-polyester blends)